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### NUTRITION SURVEY OF TASMANIA: II. VITAMIN C NUTRITIONAL STATUS IN THE SPRING OF 1945 AND AUTUMN OF 1946.

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THE food consumption survey undertaken in 1944<sup>(1)</sup> revealed that the mean intake of vitamin C in households surveyed in Tasmania was lower than the mean intake in households surveyed in the remainder of Australia. A second survey in Tasmania in 1945<sup>(2)</sup> confirmed the lower figures for that State. Both surveys had been carried out in October and November. In this regard Clements<sup>(3)</sup> has shown that in Tasmania there is marked seasonal variation in the supply of foodstuffs rich in vitamin C. The trough of supplies occurs from September to November, whilst the peak is from February to March. Thus both surveys were carried out at a time when the supply of food rich in vitamin C was at a minimum.

The nutritional status of a population cannot be assessed by the results of food consumption surveys alone. These indicate the directions in which to look for evidence of deficiency disease, but the nutritional status can be determined finally only by clinical appraisal aided by biochemical tests.

In view of the results of the food consumption surveys conducted in 1944, it was decided to investigate the nutritional status, with special reference to vitamin C, of sections of the Tasmanian population. Information

that would enable this to be done was collected on two occasions in the following ways.

1. The children of the Hobart and Launceston households which participated in the 1945 food consumption survey were medically examined for clinical evidence of deficiency states, and even minor departures from normal health were noted. Whilst signs of all deficiency states were sought, particular attention was paid to signs of vitamin C deficiency.

2. All children at two primary schools in Hobart and those at the area school at Huonville were clinically examined. Plasma ascorbic acid estimations were made in the case of any of the children in the two Hobart schools who exhibited any signs or symptoms suspected of being due to vitamin C deficiency. The children showing these signs at the Huonville school were given therapeutic doses of vitamin C.

3. In the autumn of 1946 plasma ascorbic acid determinations were carried out on a group of children taken at random from primary and secondary schools in Hobart, the sample being made up of the same number in each age group as were present in the group whose plasma ascorbic acid levels were determined in 1945. All these children were medically examined for signs of deficiency diseases. A plasma ascorbic acid determination was also made for any child who during routine medical examination by the school medical officer was found to have clinical manifestations suspected of being caused by a deficiency of vitamin C. All children in these groups who were found to have signs suggestive of vitamin C deficiency were given therapeutic doses of ascorbic acid.

4. A random sample of children attending the area school in Huonville was taken for medical examination and plasma ascorbic acid determinations. The sample was where possible made up of approximately the same number in each age group as in the Hobart random sample.

5. Plasma ascorbic acid determinations were made for a group of pre-school children attending the Lady Gowrie Child Welfare Centre in Hobart. The results obtained were compared with figures obtained for pre-school children attending the Nursery School in Canberra.

#### TECHNIQUES AND STANDARDS USED.

##### Clinical Manifestations of Vitamin C Deficiency.

Severe and prolonged depletion of vitamin C results in clinical scurvy, manifested by hæmorrhage into the gums and beneath the periosteum, which, because it is not normal, is easily stripped off by hæmorrhage. Punctate hæmorrhages occur in the skin, particularly around the ankle.

The first sign of early or mild scurvy in infants is interference with the weight curve. The infant ceases to gain weight or gains at a rate less than normal. Another sign is marked irritability in the child.

In children, the first sign of early or mild vitamin C deficiency states is seen in the gums. The margins including the papillæ become swollen, congested and assume a purplish tinge. The edge is tender to touch and blood is either oozing from the margin or the tip of the papillæ or it can be made to do so by slight pressure on the gums. The changes are generally more common in the upper than in the lower jaw. In uncomplicated vitamin C deficiency the contour of the gums is maintained.

The gums can become infected with microorganisms, leading to inflammatory changes in the gum tissue. These are characterized by swelling and, in the acute stages, by hæmorrhage, but a constant feature is the retraction of the gum margin. The latter is particularly evident at the papillæ which are absorbed and disappear. Infective gingivitis can be complicated by vitamin C deficiency, but it is generally not possible to differentiate clinically between uncomplicated infective gingivitis and the condition complicated by vitamin C deficiency.

Large doses of vitamin C given therapeutically without local treatment to the gums can assist in the differentiation. However, whilst some improvement may occur in the hæmorrhagic gums complicated by infection, as a rule the improvement is not marked.

##### Plasma Ascorbic Acid Technique.

The plasma ascorbic acid levels of the children were estimated by a modification of the Farmer and Abt method.<sup>(4)</sup> In all cases the blood sample was collected in the morning and the titration carried out in the afternoon.

#### RESULTS.

##### Spring, 1945: The Children of the Hobart and Launceston Households which Participated in the Food Consumption Survey.

The following observations were made on 134 children from families which participated in the food consumption survey.

##### Clinical Observations.

In general the health of these children was satisfactory. However, three children in the Hobart group and three in the Launceston group were found to have clinical signs strongly suggestive of vitamin C deficiency. The plasma ascorbic acid values of these children will be discussed later.

##### Plasma Ascorbic Acid Values.

The level of ascorbic acid in the plasma of the children from the households investigated in Hobart and Launceston is shown in Table I. It will be seen that in all age groups from three to fifteen years, the mean value for Launceston is higher than the mean value for Hobart. These children were from households selected at random, and it was found that the variance "between families" relative to "within families" was significant at the 1% level, so for comparisons between the two areas the units of sampling are families rather than individuals. The ascorbic acid plasma level of children aged under three years was lower than the mean plasma level of the older children in the same family, the difference having a significance of  $P < 0.1 > 0.05$ .

There was no evidence that the plasma ascorbic acid level varied with age in the range three to fifteen years. For these two reasons, together with the fact that the ascorbic acid intake of the nil to two years group follows a different pattern from that of the children of higher ages, the three to fifteen years group only has been considered in the comparison of the plasma ascorbic acid levels in the two areas. This comparison shows that the difference between the mean levels is in favour of the Launceston families, significant at the 5% level.

##### Vitamin C Intake and Plasma Ascorbic Acid Levels.

The plasma ascorbic acid levels of the children were estimated during the week in which data on food consumption were collected from their homes. From these data<sup>(5)</sup> the vitamin C intake for each family expressed as a percentage of the family recommended allowances was calculated. (As no adjustment has been made for storage and cooking losses of the vitamins in the food composition tables used in the Food Consumption Survey, a deduction

TABLE I.  
Plasma Ascorbic Acid Levels of Children in Hobart and Launceston, Spring, 1945.

Plasma Ascorbic Acid. (Milligrammes per 100 Millilitres.)	Number of Children in Each Age Group.					
	0 to 2 Years.	3 to 5 Years.	6 to 8 Years.	9 to 11 Years.	12 to 15 Years.	3 to 15 Years.
<b>Hobart:</b>						
0.00 to 0.19 .. .. .	1	2	6	2	5	15 (24%)
0.20 to 0.39 .. .. .	6	4	11	7	7	20 (46%)
0.40 to 0.59 .. .. .	0	2	2	3	4	11 (17%)
0.60+ .. .. .	0	1	3	3	1	8 (13%)
<b>Total</b> .. .. .	7	9	22	15	17	68
<b>Mean</b> .. .. .	0.24	0.26	0.34	0.39	0.32	0.35
<b>Standard deviation</b> .. .. .	0.06	0.18	0.20	0.19	0.14	0.17
<b>Launceston:</b>						
0.00 to 0.19 .. .. .	3	3	3	4	2	12 (17%)
0.20 to 0.39 .. .. .	4	9	6	7	5	27 (38%)
0.40 to 0.59 .. .. .	0	6	6	0	4	16 (23%)
0.60+ .. .. .	0	5	3	5	3	16 (23%)
<b>Total</b> .. .. .	7	23	18	16	14	71
<b>Mean</b> .. .. .	0.24	0.48	0.50	0.43	0.43	0.46
<b>Standard deviation</b> .. .. .	0.10	0.33	0.40	0.30	0.29	0.33

of 75% for green and 50% for other vegetables was made to refine the figures.<sup>(9)</sup>

The mean Hobart and Launceston intakes expressed in this way are 70% and 105% respectively of the mean recommended dietary allowances as set out by the Food and Nutrition Board of the National Research Council of America.<sup>(6)</sup> This difference in intake between the two areas is highly significant.

There is a good positive correlation ( $r = 0.556$ ) between the mean plasma ascorbic acid level of the children in the family and the family intake expressed as above. It is significant ( $P < 0.001$ ).<sup>1</sup>

#### Spring, 1945: Children Examined at Two Suburban Schools in Hobart and at the Area School, Huonville.

##### Clinical Observations.

Some 480 children aged from seven to fourteen years were examined at two suburban schools in Hobart, and of these six were found to have gum changes strongly suggestive of vitamin C deficiency. None of the changes were complicated by purulent discharges or by retraction of the papillae.

Of the 208 children aged from seven to sixteen years examined at Huonville, thirteen were found to have bleeding or congested gums. Five of these had the condition without complications; the others showed some pyorrhoea as well as the hæmorrhagic changes. Treatment of the thirteen children was commenced, but several of the older ones left school before they could be reexamined. Each child was given 200 milligrammes of ascorbic acid per day at school. After one month's treatment four were completely cured, and in five other instances the hæmorrhage had ceased, although the gums were still congested. The remaining four still exhibited both congestion and hæmorrhage. With reference to the latter, it is important to record that each case was complicated by infection of the gums with pus formation. The numbers were too small to allow of controls and were also too small for any conclusions to be drawn.

#### Autumn, 1946: The Children Taken at Random from Schools in Hobart and Huonville.

##### Clinical Observations.

Of the 67 children in the Hobart group who were examined, one, aged twelve years, was found to be suffering from congestion with slight hæmorrhage of the gums, whilst another, aged six years, had some congestion without hæmorrhage. The administration of 200 milli-

grammes of ascorbic acid per day to each of these two children resulted in the disappearance of these signs within two weeks.

None of the children in the Huonville random sample showed any clinical manifestations suggestive of vitamin C deficiency.

##### Plasma Ascorbic Acid Values.

The level of ascorbic acid in the plasma was determined for 75 children in Hobart aged from less than one to fifteen years, and for 61 children in Huonville aged from three to fifteen years. The results are set out in Table II. A comparison shows the Hobart mean level to be higher, with a significance of  $P < 0.1$ ,  $< 0.05$ . For this comparison the Hobart nil to two years group has been omitted and both age and location factors have been taken into account. The degree of significance found in the mean difference derives mainly from the relatively low value for the three to five years age group in Huonville. The difference between the mean for this group and for the children of the same age in Hobart is 0.25 milligramme per 100 millilitres (significant at the level  $P = 0.01$ ).

It is questionable whether the four children in the three to five years group in Huonville constitute a true random sample. The investigations were made at the Area school only, and there were only four five-year-olds attending the school. There may be some selective factor determining the attendance of children of this age at this school, which would be another variant not considered in the analysis.

#### Autumn, 1946: Children Especially Selected from Hobart Schools.

During routine medical inspection of children attending State schools in Hobart, Dr. F. W. George, of the Department of Public Health, selected fifteen children because they were suffering from congestion or hæmorrhage of the gums, with or without sepsis. Most of the children came from secondary schools, not necessarily because the incidence is higher amongst these children, but because the children at these schools were being examined at the time of the survey. Each of these children was given 200 milligrammes of ascorbic acid per day, with good results in those cases in which no associated septic condition of the gums was present.

The plasma ascorbic acid levels in these children were estimated (*vide infra*).

Hobart: Spring, 1945, and Autumn, 1946.

##### Plasma Ascorbic Acid Values.

Table III shows the plasma ascorbic acid level of the children investigated in Hobart in spring as compared

TABLE II.

Plasma Ascorbic Acid Levels of Children in Hobart and Huonville, Autumn, 1946.

Plasma Ascorbic Acid. (Milligrammes per 100 Millilitres.)	Number of Children in Each Age Group.					
	0 to 2 Years.	3 to 5 Years.	6 to 8 Years.	9 to 11 Years.	12 to 15 Years.	3 to 15 Years.
<b>Hobart:</b>						
0.00 to 0.19 .. .. .	1	0	0	0	1	1 (2%)
0.20 to 0.39 .. .. .	3	0	6	8	5	19 (30%)
0.40 to 0.59 .. .. .	6	7	10	8	10	35 (55%)
0.60+ .. .. .	1	1	2	2	4	9 (14%)
<b>Total</b> .. .. .	11	8	18	18	20	64
<b>Mean</b> .. .. .	0.43	0.54	0.45	0.42	0.45	0.45
<b>Standard deviation</b> .. .. .	0.20	0.21	0.13	0.12	0.14	0.15
<b>Huonville:</b>						
0.00 to 0.19 .. .. .	—	1	1	0	0	2 (3%)
0.20 to 0.39 .. .. .	—	2	6	10	11	29 (48%)
0.40 to 0.59 .. .. .	—	1	9	5	7	22 (36%)
0.60+ .. .. .	—	0	5	2	1	8 (13%)
<b>Total</b> .. .. .	—	4	21	17	19	61
<b>Mean</b> .. .. .	—	0.29	0.49	0.39	0.38	0.41
<b>Standard deviation</b> .. .. .	—	0.12	0.19	0.16	0.15	0.17

<sup>1</sup> The correlation was calculated on the family basis, as the unit in the food consumption survey was the household, not the individual.

TABLE III.  
Plasma Ascorbic Acid Levels of Children in Hobart, Spring, 1945, and Autumn, 1946.

Plasma Ascorbic Acid. (Milligrammes per 100 Millilitres.)	Number of Children in Each Age Group.					
	0 to 2 Years.	3 to 5 Years.	6 to 8 Years.	9 to 11 Years.	12 to 15 Years.	3 to 15 Years.
<b>Hobart, 1945:</b>						
0.00 to 0.19 .. .. .	1	2	6	2	5	15 (24%)
0.20 to 0.39 .. .. .	6	4	11	7	7	29 (46%)
0.40 to 0.59 .. .. .	0	2	2	3	4	11 (17%)
0.60+ .. .. .	0	1	3	3	1	8 (13%)
Total .. .. .	7	9	22	15	17	63
Mean .. .. .	0.24	0.36	0.34	0.39	0.32	0.35
Standard deviation .. .. .	0.06	0.18	0.20	0.19	0.14	0.17
<b>Hobart, 1946:</b>						
0.00 to 0.19 .. .. .	1	0	0	0	1	1 (2%)
0.20 to 0.39 .. .. .	3	0	6	8	5	19 (30%)
0.40 to 0.59 .. .. .	6	7	10	8	10	35 (55%)
0.60+ .. .. .	1	1	2	2	4	9 (14%)
Total .. .. .	11	8	18	18	20	64
Mean .. .. .	0.43	0.54	0.45	0.42	0.45	0.45
Standard deviation .. .. .	0.20	0.21	0.13	0.12	0.14	0.15

with the levels found in the plasma of children investigated in Hobart in the following autumn. It will be seen that the mean level in all age groups was higher in the autumn than in the spring. The mean difference for the three to fifteen year group was 0.10 milligramme per 100 millilitres (significant at the 1% level). The fact that in spring the children investigated were from a random sample of families, and in autumn the children were taken at random from schools, has been taken into account in this comparison.

The mean plasma level of ascorbic acid for the nil to two years group was also higher in the autumn than in the previous spring. The difference is highly significant ( $P < 0.001$ ). There was a greater increase in the plasma ascorbic acid level from spring to autumn for the children in this age group than for the children aged over two years. Although the mean for the nil to two years group was lower than the mean for the older children in spring, in the following autumn there was no significant variation between this group and the three to fifteen years group.

#### Plasma Ascorbic Acid Levels in Children with Clinical Manifestations of Deficiency of Vitamin C, Hobart, 1945 and 1946.

Estimations were made of the plasma ascorbic acid levels of children found to have clinical signs indicative of vitamin C deficiency during medical examinations at Hobart schools, both in spring, 1945, and in autumn, 1946 (see relevant previous sections). Three children in the Launceston and three in the Hobart, 1945, family samples, and two in the Hobart, 1946, random sample, were found to have clinical symptoms of the deficiency (see relevant previous sections).

In Table IV it will be seen that in Hobart in both seasons a high percentage of these children were in the lower plasma ascorbic acid level groups, and that together they had a low mean value for plasma ascorbic acid level. All these children were aged between six and fifteen years. A comparison has been made between children with and without deficiency symptoms in this age group for each survey in Hobart (see Table IV). In both seasons, the mean plasma ascorbic acid level of the series with signs of deficiency is lower than the mean level of the normal series, the difference being greater in the autumn than in the spring. The differences are significant at the 0.001 and 0.05 levels respectively.

In the spring, five out of the nine children in the deficient group and ten out of the fifty-one children in the non-deficient group had plasma ascorbic acid levels below 0.20 milligramme per 100 millilitres. Although the proportion of children in the first group is greater than that in

the second group, the numbers are too small to justify the use of percentages. In the autumn, six out of the seventeen children in the deficient group and one out of the fifty-four children in the non-deficient group had plasma ascorbic acid levels below 0.20 milligramme per 100 millilitres. In the spring, eight of the nine children in the deficient group and thirty-five out of the fifty-one children in the non-deficient group had plasma ascorbic acid levels below 0.40

TABLE IV.  
Plasma Ascorbic Acid Levels of Children with and without Clinical Manifestations of Vitamin C Deficiency in Hobart, Spring, 1945, and Autumn, 1946.

Plasma Ascorbic Acid. (Milligrammes per 100 Millilitres.)	Number (and Percentage) of Children (Six to Fifteen Years).	
	With Deficiency Signs.	Without Deficiency Signs.
<b>Hobart, 1945:</b>		
0.00 to 0.19 .. .. .	5 (56)	10 (20)
0.20 to 0.39 .. .. .	3 (33)	25 (49)
0.40 to 0.59 .. .. .	1 (11)	9 (18)
0.60+ .. .. .	0 (0)	7 (14)
Total .. .. .	9	51
Mean .. .. .	0.22	0.36
Standard deviation .. .. .	0.10	0.19
<b>Hobart, 1946:</b>		
0.00 to 0.19 .. .. .	6 (35)	1 (2)
0.20 to 0.39 .. .. .	9 (53)	18 (33)
0.40 to 0.59 .. .. .	2 (12)	27 (50)
0.60+ .. .. .	0 (0)	8 (15)
Total .. .. .	17	54
Mean .. .. .	0.27	0.44
Standard deviation .. .. .	0.10	0.13

milligramme per 100 millilitres. In the autumn, fifteen out of seventeen children in the deficient group and nineteen out of the fifty-four children in the non-deficient group had plasma ascorbic acid levels below 0.40 milligramme per 100 millilitres.

#### Plasma Ascorbic Acid Levels in Pre-School Children in Hobart and Canberra.

Plasma ascorbic acid values were obtained from a random sample of children attending the Lady Gowrie Child Centre in Hobart during the month of March, 1946. These results were compared with those obtained from a random

sample of children attending the Canberra Nursery School in November, 1945. The times correspond in each place to the period of maximum supply of food rich in vitamin C.

Twenty-five children were examined in both the Hobart and the Canberra groups, all aged between three and five years. The mean plasma ascorbic acid level in Canberra is significantly higher than the mean level in Hobart ( $P < 0.001$ ). In Hobart 36% of the children were below the 0.40 milligramme per 100 millilitre level, whereas in Canberra all the children were above this level (see Table V).

TABLE V.  
Plasma Ascorbic Acid Levels of Pre-School Children in Hobart and Canberra.

Plasma Ascorbic Acid. (Milligrammes per 100 Millilitres.)	Number and Percentage of Children.	
	Hobart.	Canberra.
0.00 to 0.19 ..	0 (0)	0 (0)
0.20 to 0.39 ..	9 (36)	0 (0)
0.40 to 0.59 ..	11 (44)	5 (20)
0.60+ ..	5 (20)	20 (80)
Total ..	25	25
Mean ..	0.40	0.81
Standard deviation ..	0.16	0.21

#### DISCUSSION.

The development of a deficiency state usually follows a definite pattern. First, there is a reduced availability of the special nutrient or nutrients to the body, either primarily through diminished food intake or secondarily through conditioning factors within the body. This is followed by depleted storage in the reserves of the body, by diminished excretion in the urine, by microscopic changes in tissue, and finally by gross morphological and functional change (Kruse<sup>(7)</sup>). Dann and Darby<sup>(8)</sup> agree that some such sequence may be expected to occur, during which the nutritional state changes from one of saturation to one of unsaturation, and then to potential, latent and finally manifest deficiency disease.

The use of the plasma ascorbic acid level as an assessment of vitamin C nutritional status depends on knowing how far below saturation level a person can exist before, with the passage of time, microscopic changes, functional impairment and frank deficiency symptoms appear.

A figure of 0.60 milligramme per 100 millilitres was for some time taken as the significant dividing line between a satisfactory and an unsatisfactory state of vitamin C nutrition. Borsook, Alpert and Keighley,<sup>(9)</sup> after reviewing the literature, conclude that the prevailing opinion is that plasma ascorbic acid levels below 0.40 milligramme per 100 millilitres indicate a deficiency state, and that from the point of view of prophylaxis the conservative position would be that a plasma ascorbic acid level below 0.20 milligramme per 100 millilitres is unsafe.

A large proportion of Tasmanian children investigated had levels below 0.40 milligramme per 100 millilitres: 70% in Hobart and 55% in Launceston in the spring, and 32% in Hobart and 51% in Huonville in the autumn. Also, in the spring, 24% of the Hobart children and 17% of the Launceston children had less than 0.20 milligramme of ascorbic acid per 100 millilitres of plasma. These figures indicate that probably a state of latent deficiency existed in several of the children, especially in the spring. Some of these children exhibited clinical signs suggestive of deficiency in both autumn and spring.

The children of the households surveyed in Launceston had a higher mean plasma ascorbic acid value and a greater mean intake of vitamin C than the children of the households surveyed in Hobart.

There is a good positive correlation between intake and plasma level of ascorbic acid. It must be realized that the intake figure used is for the family over a period of one week, and the plasma figure the mean of the results of one

"spot" test on the children in that family. It is well known<sup>(10)</sup> that the level of ascorbic acid in the blood is dependent to a large degree on recent dietary habits; but Portnoy and Wilkinson<sup>(11)</sup> have demonstrated that the plasma ascorbic acid level is constant from hour to hour in patients receiving a non-supplemented diet, and when a large amount of food rich in vitamin C has not been taken before the test is made. In this survey the blood sample was taken, not at fasting level, but between breakfast and the midday meal. The dietary pattern of the households examined in Tasmania showed that foods rich in vitamin C were not eaten at breakfast time.

A comparison of the mean plasma ascorbic acid values of two population groups surveyed as in Tasmania will thus give a measure of differences in mean intake levels of the two groups.

The results of the investigations in Hobart and Huonville in 1946 give a slight indication that the vitamin C nutritional status is not so high in the country as in the city, although the particular country centre is a fruit-growing area.

One of the outstanding points demonstrated by the survey is that in the autumn the plasma ascorbic acid levels were much higher than in the spring. Data assembled by Clements<sup>(12)</sup> show that seasonal variation of vitamin C supplies occurs, with a trough in Tasmania during the months of September, October and November, and a peak in February, March and April. At the time when supplies are at their maximum, the mean plasma ascorbic acid level is significantly higher than when supplies are at their minimum.

The children who showed the greatest increase in plasma ascorbic acid from spring to autumn were those aged under two years. This age group is dependent on concentrated sources of vitamin C, and in spring, when these are not available, their nutritional status relative to that of children above two years of age is worse than it is in autumn. The figure obtained for the under two years group in autumn may have been influenced by the fact that the sample was taken from children attending the Child Welfare Clinic in Hobart, where nutritional guidance is given. If this is a factor, then it is apparent that the level of plasma ascorbic acid is raised further from spring to autumn in the age group in which nutritional guidance is given (the nil to two years group) than in the other age group (three to fifteen years).

The children at both the Hobart Lady Gowrie Child Centre and the Canberra Nursery School were receiving a supplemented diet, a source of ascorbic acid being a feature of each supplement. At Canberra the children received two ounces of orange juice per day, equivalent to approximately 31 milligrammes of ascorbic acid. At Hobart, as oranges were expensive and difficult to obtain, the children received one ounce of black currant juice syrup, equivalent to approximately 22 milligrammes of ascorbic acid.

The mean plasma ascorbic acid level of the children at the Lady Gowrie Child Centre in Hobart was 50% lower than the mean level of the children attending the Canberra Nursery School, while the children in Hobart were receiving a vitamin C supplement two-thirds of that given in Canberra.

This survey has demonstrated in a typical Tasmanian child population the presence of a number of children who had signs strongly suggestive of insufficient vitamin C in the body. Although therapy with ascorbic acid was carried out, the number of cases was too small to allow any definite conclusions to be drawn. The fact that the changes suggestive of the vitamin C deficiency were in some children complicated by infection rendered unsatisfactory both the diagnosis and the treatment with ascorbic acid. A noteworthy aspect of the combined clinical and biochemical survey was the fact that these children had some ascorbic acid in their plasma. This phenomenon has been noted by other workers.<sup>(13)(14)</sup> These children with clinical manifestations suggestive of deficiency had lower plasma ascorbic acid values than the children without the gum changes. This difference was more pronounced in the autumn than in the spring.

## SUMMARY.

1. In the spring of 1945, children of families taken at random in Hobart and Launceston were medically examined and their plasma ascorbic acid levels were determined. A few of these children had clinical signs strongly suggestive of vitamin C deficiency, and a high percentage had low levels of ascorbic acid in their plasma.

2. At the same time, children at two Hobart primary schools and at the Huonville Area School were medically examined. Some children had clinical manifestations suggestive of vitamin C deficiency.

3. Random samples of school children were taken in Hobart and Huonville in the autumn of 1946. These children were medically examined and estimations were made of their plasma ascorbic acid levels. Two were found to have clinical signs of vitamin C deficiency. The mean plasma level in Hobart at this time was significantly higher than during the spring months.

4. Several children who had symptoms suggestive of vitamin C deficiency were selected from the schools. They responded to therapeutic doses of vitamin C, but the results were inconclusive. The plasma ascorbic acid levels of these children were determined and the mean value was found to be extremely low.

5. A random sample of pre-school children attending nursery schools in Hobart and Canberra was taken for plasma ascorbic acid determinations. The mean value in Canberra was significantly higher than in Hobart.

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## DENTAL CARIES: PUBLIC HEALTH ASPECTS OF CONTROL BY FLUORINE.

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THE control of dental caries is of prime importance in the production of optimal dental health, and the possibility of reducing the incidence of dental caries by the low fluorination of domestic water supplies presents, for the first time, a means of mass control of this disease. Since a major portion of the dental practitioner's time is spent restoring or replacing carious teeth, an effective method of caries control would allow the dentist to deal more adequately with the dental needs of the community.

It is the purpose of this paper to point out the inverse relationship that exists between the dental caries experience and the fluorine content of the water supply, and the fact that the small quantities of fluorine required to produce maximum resistance of the teeth to dental caries can be ingested throughout life, without causing any cumulative toxic effects. Primarily, a survey of the literature will show that reliable epidemiological studies have presented evidence from groups of statistically significant proportions, to ensure the acceptance of the relationship between fluorine and dental caries. Secondly, experimental and epidemiological considerations of fluorine metabolism illustrate the non-toxic balance which is operative under those conditions of fluorine intake where the drinking water contains one part per million of fluorine. Thirdly, it is suggested, in view of the available evidence, that demonstration studies be set up to investigate the possibility of the transference of this outstanding example of natural immunity to dental caries into a means of mass control of dental caries.

## Epidemiological Evidence of the Fluorine-Caries Relationship.

In the early part of the last decade epidemiological studies showed that there existed a relationship between the fluoride content of the water and the degree of dental fluorosis which affected people using that water continuously during the first eight years of life. The threshold value of fluoride in the water necessary to cause dental fluorosis was established at one part per million of fluorine (Dean and Elvove, 1935).

Thus it was only those waters which contained more than one part per million that were of public health importance during this period (1933 to 1937). Dean (1938) observed during a survey of fluorosis areas in South Dakota, United States of America, that there was a pronounced difference in the incidence of dental caries in fluorosis and non-fluorosis areas, the low caries experience being associated with those areas where dental fluorosis was prevalent.

The most significant observation of this survey was that the relative immunity to dental caries was exhibited by both the permanent and the temporary teeth, and furthermore, that it was present irrespective of whether the teeth were showing signs of dental fluorosis or not.

It had been previously considered that the freedom from dental caries was dependent upon the presence of mottled enamel, which is aesthetically objectionable, besides in its more severe forms weakening the structure of the teeth. Now there arose the possibility that fluorine in concentrations below the threshold value of dental fluorosis could result in this relative freedom from caries. Epidemiological studies planned to test this hypothesis have confirmed it.

Dean (1945) has outlined the main methods used in analysing the results of these epidemiological investigations in order to ensure their accuracy: (i) improvements in measuring dental caries prevalence, which was specific for age, sex and colour; (ii) examination of only those persons exposed continuously to the factor being investigated—namely, the domestic water supply; (iii) refine-

ments in methods of analysis permitting the estimation of fluorine content accurate to 0.1 part per million of fluorine.

The first study was made by Dean *et alii* (1939) in Galesburg and Quincy, Illinois, and this was followed by a study of 21 cities in four States by Dean *et alii* (1941, 1942). A total of 7,257 white children who had been exposed continuously throughout life to the one domestic water supply were examined. The results of this survey are shown in Table I. The dental caries experience is rated as the number of decayed, filled and missing teeth per child, and this is related to the fluoride content of the domestic water supply.

TABLE I.

Summary of Dental Caries Findings in Relation to the Fluoride Concentration in the Water Supply in the United States of America. (Dean, 1945.)

City and State.	Number of Children Examined.	Percentage of Children Examined Free from Caries.	Number of Permanent Teeth per Child with Dental Caries Experience.	Fluoride Concentration of Domestic Water Supply in Parts per Million.
Galesburg, Illinois	273	27.8	2.36	1.9
Colorado Springs, Colorado	404	28.5	2.46	2.6
Elmhurst, Illinois	170	25.3	2.52	1.8
Maywood, Illinois	171	29.8	2.58	1.2
Aurora, Illinois	633	23.5	2.81	1.2
East Moline, Illinois	152	20.4	3.03	1.2
Joliet, Illinois	447	18.3	3.23	1.2
Kewanee, Illinois	123	17.9	3.43	0.9
Pueblo, Colorado	614	10.6	4.12	0.6
Elgin, Illinois	403	11.4	4.44	0.5
Marion, Ohio	263	5.7	5.56	0.4
Lima, Ohio	454	2.2	6.51	0.3
Evanston, Illinois	256	3.9	6.73	0.0
Middletown, Ohio	370	1.9	7.03	0.2
Quincy, Illinois	330	2.4	7.06	0.1
Oakpark, Illinois	329	4.3	7.22	0.0
Tanesville, Ohio	459	2.6	7.33	0.2
Portsmouth, Ohio	469	1.3	7.72	0.1
Waukegan, Illinois	423	3.1	8.10	0.0
Elkhart, Indiana	278	1.4	8.23	0.1
Michigan City, Indiana	236	0.0	10.37	0.1

The striking difference between the dental caries experience of children using water containing 1.0 to 1.4 parts per million of fluorine and those using water containing below 0.5 part per million is at once evident. The greatest difference in dental caries experience was observed in the upper anterior teeth. Dean (1945) puts it as follows:

In the 3,867 children residing in cities having water supplies containing less than 0.5 part per million of fluoride, 3,106 out of 30,528 surfaces showed evidence of caries experience, or at the rate of 10.2 per 100 surfaces. In sharp contrast: 3,390 children who resided in cities wherein the public water supply contained 0.5 p.p.m. or more, only 292 out of 26,618 surfaces had any caries experience or a rate of 1.1 per 100 surfaces.

Other studies in America (Bull, 1943), in England (Weaver, 1944), South Africa (Ockerse, 1943, 1944), and in India (Day, 1940, 1944; Shourie, 1946) have given further support to the inverse relationship that exists between the incidence of dental caries and the fluoride content of the water supply in communities where the subjects have been continuously exposed to fluoride concentrations in the range of 0.5 to 1.5 parts per million of fluorine.

#### Fluorine Balance.

The toxic effects of fluorine, chronic fluorine intoxication, the pathological effects of which are confined almost entirely to the osseous system, appear to be the greatest public health menace connected with the use of fluoride waters for domestic purposes. The retention of large amounts of fluorine in the skeleton is the cause of this pathological condition, and thus the elimination of fluorine from the body at high levels of fluorine intake is an important factor in the adjustment of the fluorine balance, so as to lessen the possibility of chronic fluorine intoxication.

McClure (1944) has suggested that "the fluorine content of the urine studied in relation to the fluorine exposure" may serve as an index to "the approximate fluorine exposure from food and drinking water" and the "suspected health hazard related to cumulative bone fluorosis". The balance of fluorine when the fluorine concentration is low (1.0 part per million) is of more special interest because of the possible use of this measure of fluorinating public water supplies for the partial control of dental caries.

The fluorine content of urine in humans was first studied by Machle (1936), who found that in 130 subjects the fluorine content of the urine ranged from 0.5 to 2.8 parts per million and averaged 1.0 part per million. Roholm (1937) estimated the fluorine content of urine of cryolite workers, and found that in a twenty-four hour urine sample 2.54 to 2.09 milligrammes of fluorine were excreted. Brun, Buchwald and Roholm (1944), on further analysis, found values as high as 43.1 milligrammes per litre (43.1 parts per million of fluorine). Machle, Scott and Treon (1939) reported greatly increased concentrations of fluorine in the urine of persons living in endemic areas, and they observed that a daily output of from 10 to 20 milligrammes of fluorine was consistent with good health. Over a period of five to seven years, Brun, Buchwald and Roholm (1944) found that the average fluorine content of the urine of 30 hospital patients was 0.8 milligramme per twenty-four hour sample, or 0.92 milligramme per litre. Twenty-four cryolite workers gave urinary fluorine values of 2.41 to 43.41 milligrammes per litre (an average value of 16 milligrammes). Furthermore, these workers state that 25 milligrammes of fluorine per day must be retained to cause osteosclerosis.

Short *et alii* (1937) found an appreciable elevation of the fluorine level in the urine of natives in India who consumed large amounts of fluorine in their drinking water and food. In the urine of foundry workers exposed to fluorine in the atmosphere, Largent (1943) found values of 5 to 10 milligrammes of fluorine per litre and observed that "spot" samples of urine gave the same values as twenty-four hour samples. Machle, Scott and Largent (1942), in an experimental study, showed that a man remained in a normal fluorine balance—that is, no fluorine was stored—when the intake was from 0.4 to 0.6 milligramme of fluorine per day; 80% of the fluorine ingested was absorbed and excreted in the urine. The amounts of fluorine ingested in food and fluid were 0.155 milligramme and 0.299 milligramme respectively, a total of 0.457 milligramme of fluorine. The amounts of fluorine excreted in the urine and faeces were 0.377 and 0.039 milligramme respectively, a total excretion of 0.415 milligramme. Fluorine is also excreted in the perspiration, the amount being one-sixth that excreted in the urine. Thus Machle *et alii* conclude that within the limit of experimental error, on these low levels of fluorine intake there exists a non-cumulative fluorine balance.

Machle and Largent (1943) conclude that at intake levels above normal absorption and excretion increase. The absorption is proportional to the excretion, and storage varies directly with these two factors; thus, although there is an increase in excretion concurrent with an increase in absorption, there is an increase in storage.

More recently, McClure *et alii* (1945) studied the fluorine balance in five young men. They found that the elimination of absorbed fluorine was practically complete if the intake of fluorine did not exceed four to five milligrammes per day. Subjects using the Galesburg, Illinois, water supply (fluorine content 1.8 to 1.9 parts per million), which contributes four to five milligrammes of fluorine per day to their diet, were found to be in fluorine equilibrium. The significance of the urinary excretion of fluorine in the maintenance of normal fluorine balance becomes at once apparent when the findings in these studies are correlated with the epidemiological evidence.

#### Fluorine Balance in Epidemiological Investigations.

The amount of fluorine ingested both in food and in water, when the concentration of the fluorine in the food

ranges from 0.1 to 1.0 part per million and the fluorine content of the water is 1.0 part per million, has been estimated by McClure (1943). The total water intake—that is, water drunk *plus* water in food—was calculated after the method described by Adolph (1933). McClure (1939) had previously reviewed the question of water drunk under practical conditions, and concluded that 1,200 to 1,500 millilitres represented the daily consumption of "raw" water, *plus* water used in beverages, for the normal adult or child.

Adolph (1933) has shown that the total amount of water used per day (water in food and water drunk) is equal to the energy allowance for the subject. The figures given by this calculation agree with the findings of other workers who have studied water metabolism. In Table II McClure has considered first the fluorine content of the water drunk when it is 25% and 33% of the total daily requirement, and then the additional fluorine incorporated in the food due to drinking water used in its preparation. These two sets of values give the total fluorine intake per day derived from drinking water.

The fluorine content of the food is uniformly low in all localities, the intake ranging from 0.3 to 0.6 milligramme per day. Armstrong and Knowlton (1942) estimate that 0.27 to 0.32 milligramme is derived from food sources. The fluoride intake from "sources other than domestic water was insufficient to produce even the faintest signs of dental fluorosis in as little as one per cent" of a group of 2,042 school children using fluoride-free water from Lake Michigan (Dean, 1943). The fluorine content of food is between 0.2 and 0.5 part per million; but in some foods, teas and fish foods, the fluorine content is much higher.

A review of the literature concerning fluorine balance has shown that the body is in fluorine equilibrium when the amount ingested does not exceed 3.0 milligrammes per day. From these considerations it is obvious that a normal person, drinking water containing one part per million of fluorine and eating food containing from 0.1 to 0.5 part per million, would ingest at the most 2.0 milligrammes of fluorine per day, and cumulative fluorine toxicosis would not result because retention of fluorine in measurable amounts does not occur at these levels.

Cumulative fluorine toxicosis is characterized by increased fragility of the bones. Thus a survey of the bone fracture incidence in areas of suspected fluorosis would indicate whether or not any increased brittleness existed in the bones of people in these areas in comparison with the bones of people in a similar non-endemic area.

McClure (1944), in order to determine the relation between the ingestion of fluorine in drinking water and the height, body weight and incidence of bone fractures, surveyed selected groups of 1,458 high school boys and 2,529 young adults. The subjects were selected so that endemic areas and non-endemic areas were evenly represented. McClure states that while the results do not permit final conclusions, "they do suggest strongly that no serious impairment in skeletal performance, as might be manifest in number of broken bones, seems related to exposure to fluoride domestic waters in the concentrations

studied in this survey". There was no relation between the height, weight and bone-fracture figures of the men examined and the fluoride concentration of the domestic water supply. An epidemiological investigation of fluorine balance of subjects in endemic and non-endemic areas was carried out by McClure and Kinser (1944). The concentration of fluorine in the urine of 1,900 men and boys in these various areas was correlated with the fluoride content of the water supply.

McClure and Kinser (1944) state that "a remarkable relationship was observed between urinary fluorine and the fluorine content of domestic water". The fluorine content of the waters to which the individuals were exposed varied from 0.5 to 5.0 parts per million. The balance which exists between intake and elimination of fluorine from water from values of 0.1 to 4.7 parts per

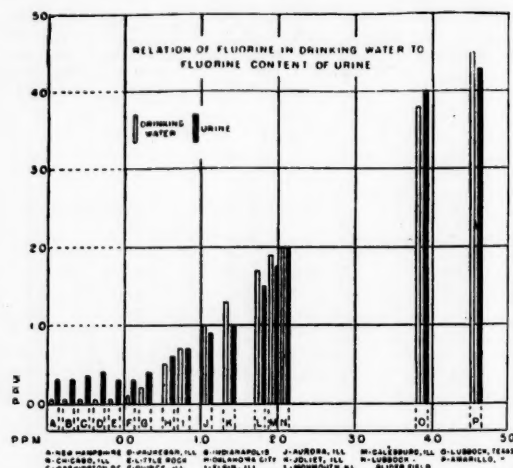


FIGURE 1.

The relation of urinary fluoride to the fluoride content of the drinking water of 1,900 men and boys in areas of high and low fluoride concentration (McClure and Kinser, 1944).

million indicates that there is little possibility that an abnormal amount of fluorine could be incorporated in the bony tissues and result in chronic fluorine intoxication (see Figure 1).

The public health menace of chronic fluorine intoxication due to fluorine in domestic water supplies has been shown to be very slight in the light of previous findings. These considerations may be summarized as follows:

1. Fluorine present in the drinking water is largely excreted in the urine by men and boys when the level is below 5.0 parts per million. No difference in the ability of the body to eliminate fluorine would be expected because of difference in sex.

TABLE II.

Estimated Daily Intake of Fluorine from Food Containing 0.1 to 1.0 Part per Million Fluorine and Water Containing 1.0 Part per Million Fluorine. (After McClure, 1943.)

Age in Years.	Body Weight in Kilograms.	Daily Fluorine Intake.			
		From Drinking Water. (Milligrammes of Fluorine.)	From Food. (Milligrammes of Fluorine.)	Total. (Milligrammes of Fluorine.)	Milligrammes of Fluorine per Kilogram of Body Weight.
1 to 3	8 to 16	0.39 to 0.56	0.027 to 0.265	0.417 to 0.825	0.026 to 0.103
4 to 6	13 to 24	0.52 to 0.745	0.036 to 0.36	0.556 to 1.105	0.023 to 0.085
7 to 9	16 to 35	0.65 to 0.93	0.045 to 0.45	0.695 to 1.380	0.020 to 0.068
10 to 12	25 to 54	0.81 to 1.165	0.056 to 0.56	0.866 to 1.725	0.016 to 0.069

2. Fluorine, though not an essential element in body metabolism, generally occurs in small concentrations in skeletal tissue. The concentration may increase five to ten times without the occurrence of pathological changes. The lack of correlation of the bone-fracture incidence and exposure to fluorine indicates that low levels of intake are consistent with domestic water supplies containing as much fluorine as 4.5 parts per million and are of no hazard to public health.

#### The Control of Dental Caries.

The application of these epidemiological findings for the control of dental caries cannot be generally recommended at present, for it is necessary to demonstrate in experimental studies under various conditions the benefits to public dental health which would result, and the safety and practicability of alteration in the fluoride content of the domestic water to one part per million.

To test the effectiveness in controlling caries of the low fluorination of water supplies, six studies are in progress in the United States of America and Canada and five more are projected (Table III).

TABLE III.  
Fluoride Studies Projected or in Progress.

Country and State.	Reference.	Projected.	In Progress.
United States of America:			
Connecticut .. ..	Erlenbach and Tracy (1946) ..	+	+
Illinois .. ..	Getting (1946) ..	+	+
Michigan .. ..	Ast (1945) ..	+	+
Massachusetts ..	Getting (1946) ..	+	+
New York .. ..	Ast (1945) ..	+	+
Ohio .. ..	Getting (1946) ..	+	+
Oregon .. ..	Getting (1946) ..	+	+
Rhode Island ..	Getting (1946) ..	+	+
Texas .. ..	Taylor (1946) ..	+	+
Wisconsin .. ..	Getting (1946) ..	+	+
Canada:			
Ontario .. ..	Thompson (1945) ..		+

As the results of these studies will not be available for ten to twelve years, it would appear expedient that similar studies be commenced in this country, in view of the beneficial results estimated by Arnold (1943) on the epidemiological observations of Dean *et alii* (1941, 1942), to be likely to occur when fluoride-free water is raised to one containing one part of fluorine per million. Thus it could be expected that in a fluoride-free community (for example, Sydney), after the requisite lapse of time investigation of the children would reveal the following changes: (a) six times as many caries-free mouths as previously; (b) reduction by one-half in the number of decayed, missing or filled teeth; (c) a 75% decrease in the number of first permanent molars lost; (d) an approximate reduction of 95% in the incidence of caries in the four upper anterior teeth.

Faust (1944) has shown that the addition of sodium fluoride to water supplies presents no technical problems to the water works engineer. Automatic chemical feeding equipment, which will add the requisite amount of sodium fluoride to the water (20.5 pounds of sodium fluoride per million gallons of fluoride-free water) is available and is inexpensive.

Ast (1945) has described the plan in operation at Newburgh, New York. Dental and paediatric examination is carried out from birth to the age of twelve years. The physical examination is supplemented by blood and urine analyses and by radiographic examination of bones and ossification centres. The *per capita* cost of this low fluorination is approximately five cents per year.

It is important to stress that this plan to control dental caries does not require the addition of any element which is not already present in a vast number of water supplies. The optimal concentration suggested is considerably less than many thousands of people have been using for many years. The people of Colorado, where rampant dental

caries is almost unknown, have been using water containing 2.6 parts of fluorine per million for over sixty years without any effect other than a most desirable decrease in the incidence of dental caries.

#### Summary.

Examination of the results of reliable epidemiological investigations has indicated that there exists an inverse relationship between the incidence of dental caries and the fluorine content of the water supply. Furthermore, the inhibitory effect of fluorine on dental caries is present when the fluoride concentration of the water is below the threshold value necessary to cause the production of "mottled enamel".

Experimental and epidemiological studies of fluorine balance indicate that when the level of intake is from two to three milligrammes per day, practically 100% of the ingested fluorine is excreted.

The amount of fluorine ingested when the concentration of fluorine in the drinking water is one part per million has been shown to be below that level of intake necessary to produce a positive fluorine balance and ultimately cumulative toxic fluorosis.

The beneficial effect on dental caries of the ingestion of small quantities of fluorine is now a well-recognized fact, and it is suggested that experimental studies in the artificial fluorination of water supplies be instigated in this country to prove that under conditions operative in Australian communities the alteration of the fluorine concentration of the domestic water supplies to one part per million would be sound public health practice.

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## THE PELVIC FASCIA: ITS SIGNIFICANCE TO THE SURGEON.

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HAVING served as the inspiration for many controversial monographs by British anatomists and surgeons at the beginning of the century, very little of which material has appeared in the classical textbooks, the pelvic fascia as a field of interest would seem to have been abandoned latterly by the anatomist to the surgeon. The former now mainly refers contemptuously to so much "packing" between and around the viscera, or to a "subperitoneal condensation of undifferentiated mesoderm", whereas the latter still knows full well the value of certain highly differentiated condensations.

Unfortunately descriptions left to the surgeon have often suffered through the ignoring or misplacing of the terms of ancient anatomical usage; the coining of new terms for previously recognized structures has become the vogue with gynaecologists, such terminology being usually influenced by technical surgical procedures rather than by the morphology of the tissues or the adaptability of such terms to the homologous structures in the opposite sex.

As a demonstrator in anatomy during the years from 1930 to 1932 I attempted to give anatomy students a clear conception of the fascia, reconciling the surgeons' coinage with the mintage of the anatomists, so that later in the medical course the wealth of description flowing from the mouths and pens of gynaecologists, urologists and proctologists might be adequately evaluated. To do so I found it necessary myself to dissect many human pelvises to make

comparative studies of many animals, and to carry out extensive research into all available literature before I felt that I had arrived at the truth. Having since read and listened to many confusing descriptions by expert surgeons, it now seems to me worth while to condense the material collated some years ago, even though I run the risk of having been anticipated in the meantime.

The scanty fundamental terminology provided by the Basel *nomina anatomica* will be used as a basis for the following descriptions; but I have been obliged to draw freely on foreign authors, who are on the whole comprehensive, for the more specialized structures. The *Traité d'anatomie humaine* of Poirier Charpy and Nicholas has been especially helpful; our own textbooks are disappointing and often misleading.

The two main divisions of the pelvic fascia listed in the B.N.A. (1895) are *fascia diaphragmatis pelvis superior* and *fascia endopelvina*.<sup>(1)</sup> Fortunately the Birmingham

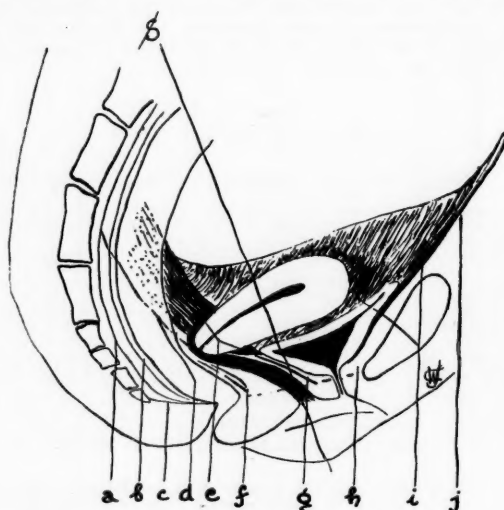


FIGURE I.

Sagittal section of female pelvis, diagrammatically portraying endopelvic fascia: a, presacral fascia; b, fascia propria recti; c, superior fascia of pelvic diaphragm; d, right uretero-sacral ligament; e, left neuro-vascular sheath; f, recto-vesical septum; g, vesico-vaginal septum; h, median pubo-vesical ligament; i, left allantoic sheath; j, umbilico-epivesical fascia.

Revision has made no alterations; but for simplicity's sake I shall here anglicize Latin and other foreign terms, adding the synonyms of old terminology and individual eccentricities.

### A. The Superior Fascia of the Pelvic Diaphragm (B.N.A.).

The superior fascia of the pelvic diaphragm is merely the continuation of the epimysial lining of the abdominal cavity, and is deficient in positions where no muscle exists, such as the posterior aspect of the pubis and the anterior aspect of the sacrum medial to the antero-sacral foramina. It is therefore not quite synonymous with the old "parietal pelvic fascia" which it replaces; the latter term referred to all fascia in contact with the pelvic walls, and the structure was therefore not entirely aponeurotic.

The B.N.A. term is applied to the aponeurotic layer formed by the following three components: (1) The first is the so-called obturator fascia—not the epimysium of the obturator internus, which is very thin, but actually the aponeurosis of the ilio-coccygeal portion of the levator ani.<sup>(2)</sup> Usually this aponeurosis covers the obturator muscle; but it depends on the level of the tendinous arch (old terminology, "white line") of the levator ani whether any of the thin real obturator fascia is visible or not. (Similarly, the subdiaphragmatic portion of the so-called

obturator fascia has previously been shown by me<sup>(10)</sup> to be in reality the aponeurosis of the ischio-coccygeus. (ii) The second component is the ischio-coccygeus (coccygeus) muscle, or its fibrous vestige the sacrospinous ligament (old terminology, "small sacro-sciatic"). (iii) The third component is the aponeurosis of the pubo-coccygeal portion of the levator ani.

The thin epimysium of the pyriformis is blended with the endo-pelvic fascia, so that it is not recognizable; this accounts for the occasionally made statement that the sacral nerves lie behind the parietal pelvic fascia, which is not true for the superior diaphragmatic fascia.

Certain portions of the superior diaphragmatic fascia have definite importance and bear various names.

#### Lateral Pubo-Prostatic (Pubo-Vesical) Ligament.

The lateral pubo-prostatic ligament (pubo-vesical in the female) (B.N.A.) has the following synonyms: (i) "true" lateral ligament of the bladder (old terminology); (ii) pubo-cervical ligament, utero-public ligament, utero-public plane (including the vesico-vaginal septum, which is not morphologically continuous); these terms are used by gynecologists.

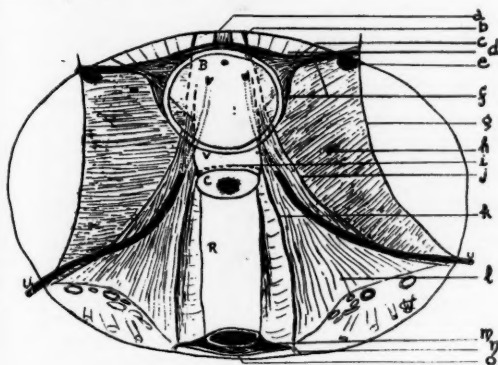


FIGURE II.

Endopelvic fascia from above (diagrammatic): a, median pubo-vesical ligament; b, middle pubo-vesical ligament; c, umbilico-prevesical fascia; d, lateral pubo-vesical ligament; e, obturator canal; f, allantoic sheath; g, umbilical artery (superior vesical); h, umbilical lamina of allantoic sheath; i, recto-vesical septum; j, arcus tendineus fasciæ pelvinæ; k, utero-sacral ligament; l, neuro-vascular sheath; m, fascia propria recti; n, rectal stalk; o, pre-sacral fascia.

The term "lateral ligament of the bladder" is often abused, being sometimes applied by urologists to an endofascial structure which has no supporting value (see below). The structure is a triangular or roughly quadrilateral portion of the pubo-coccygeal aponeurosis, converging from the pubic ramus antero-laterally with the base of the bladder and cervix (in the female) or with the prostate (in the male); near these organs it includes the endofascial condensation around the visceral vessels medial to the tendinous arch of the pelvic fascia. "Quain's Anatomy" is my authority.<sup>(11)</sup> Sometimes this structure is mainly muscular rather than aponeurotic; but the muscle fibres are voluntary.

#### Middle Pubo-Prostatic (Pubo-Vesical) Ligament.

The middle pubo-prostatic ligament (pubo-vesical in the female) (B.N.A.) has the following synonyms: anterior "true" ligament of the bladder (old terminology), anterior pubo-prostatic (pubo-vesical) ligament. The old term was borrowed from Meckel<sup>(12)</sup> (1717 to 1774). It is the rounded medial edge of the pubo-coccygeal aponeurosis stretching between the pubic body and the bladder or prostate.<sup>(13)</sup> It has therefore a definite tendinous strength. The ligament of each side is separated by the interval between the pubo-coccygeal. It is named "middle" because of another endofascial condensation, part of the bladder

sheath which surrounds the pudendal plexus of veins; although this latter structure has little supporting value, it is named the "median pubo-prostatic (pubo-vesical) ligament". The term "medial" is therefore not used.

#### B. The Endopelvic Fascia (B.N.A.).

The endopelvic fascia (B.N.A.) has the following synonyms: visceral pelvic fascia (old terminology), recto-vesical fascia (old terminology). This is a fibro-fatty mass arising above the plane of the superior diaphragmatic fascia along the tendinous arch of the pelvic fascia on each side, to pass medially and around the viscera, their vessels and nerves. Spalteholz<sup>(14)</sup> is quoted here as the authority for this description, and others might be given. Cunningham, on the other hand, would lead one to suppose that the whole of the pelvic fascia was included in the term "endopelvic".

There was once much controversy as to whether the special condensations of the superior diaphragmatic fascia or those of the endopelvic fascia contributed the main support to the female genital organs. A compromise has generally been accepted, and both are given their special value. The following are some of the special condensations of the endopelvic fascia.

#### Tendinous Arch of the Pelvic Fascia (B.N.A.).

The tendinous arch of the pelvic fascia (B.N.A., Henle<sup>(15)</sup>) has the synonym "white line of the pelvic fascia" (old terminology). Distinction must be made from the tendinous arch of the levator ani (white line of the levator ani) which has been alluded to above as the upper limit of the ilio-coccygeus and therefore of the superior diaphragmatic fascia. This arch of the pelvic fascia is a condensation found only in man, according to Thompson,<sup>(16)</sup> because of the stresses imposed on the endofascial visceral supports in the erect posture. It extends from the pubic body anteriorly, where it slightly reinforces the pubo-prostatic (pubo-vesical) ligament, to the ischial spine; from here backwards it becomes involved in a mass of tissue (the neuro-vascular sheath), the lateral limit of which is the posterior limit of the obturator internus, and the medial limit the sacrospinous ligament; each of these borders has at various times been described as the backward continuation of the arch.

The arch provides the pelvic tent with an efficient guy rope. In the ideal pelvis (though not invariably, since many pelves are too loosely assembled) it corresponds with another arch in the ischio-rectal fossa, described by me elsewhere as the "arcus tendineus fossæ ischio-rectalis".<sup>(17)</sup>

#### Neuro-Vascular Sheath.

The neuro-vascular sheath has the following synonyms: tunica vasorum uteri (Merkel<sup>(18)</sup>); cardinal ligament (Kocks, 1880<sup>(19)</sup>); transverse ligament of the uterus (Mackenrodt, 1895<sup>(20)</sup>); suspensory ligament of the pelvis (Paterson<sup>(21)</sup>), favoured by Eden and Lockyer,<sup>(13)</sup> Crossen,<sup>(22)</sup> and others; utero-public shelf (Bonney) (both of the last-mentioned structures include the visceral septa and pubo-vesical (cervical) ligaments—that is, the superior diaphragmatic and endopelvic fascia); posterior pedicles of the bladder in the male (urological, Thompson-Walker,<sup>(23)</sup> Young,<sup>(24)</sup> and others). The term is that used by Maguire,<sup>(25)</sup> practically a translation of Merkel's *tunica vasorum*. It provides a term for the homologous structures of the male and is more anatomically descriptive. Certainly neither Kocks nor Mackenrodt deserves to be immortalized thereby, since it was described by Santorini in the thirteenth century<sup>(26)</sup> (not the Santorini of the seventeenth century), in spite of the church's ban on human dissection, by Vesalius in the fifteenth century, by the third Bartholini<sup>(27)</sup> in the seventeenth century, and by Malgaigne in 1838.

In the female the structure commences as a thick fibro-fatty mass covering the great sacro-sciatic foramen and the pyriformis muscle, where it serves as a broad sheath for the hypogastric and related visceral vessels and nerve plexuses. Passing forwards and medially, it grows more

condensed and is enriched with involuntary muscle fibres, especially where it becomes the parametrial tissue; here the muscle fibres become continuous with those of the cervix and lateral vaginal walls; as an attenuated structure it passes on to the base of the bladder. It has a firm attachment to the tendinous arch of the pelvic fascia and the latter's backward prolongations, whilst its medial boundary is the vertical lamina of the utero-sacral ligament.

**Posterior Pedicles of the Bladder.**—The posterior pedicles of the bladder (described by urologists and some surgical anatomists—for example, Beesley and Johnston) deserve special mention as the homologous neuro-vascular sheath in the male. The pedicle on each side passes from behind forwards and medially to the postero-lateral angles of the prostate and bladder trigone, enclosing the vesical vessels, *vas deferens* and ureter.



FIGURE III.

Sketch of a sagittal hemisection of a female pelvis, to show the superior fascia of the pelvic diaphragm and its related musculature (viewed infero-medially): *a*, middle pubo-vesical ligament, showing its relation to the medial edge of the pubo-coccygeus; *b*, lateral pubo-vesical ligament, showing it as portion of the pubo-coccygeal aponeurosis, the pubo-coccygeus underlying it; showing also its directional continuity with the vesico-vaginal septum; *c*, vesico-vaginal septum; *d*, portion of the left half of the vagina inverted; *e*, recto-vaginal septum; *f*, rectum inverted; *g*, pubo-coccygeus; *h*, pubo-rectalis portion of pubo-coccygeus; *i*, arcus tendineus fasciæ pelvinæ; this tendinous arch corresponded with that of the levator ani, which is frequently as high as the upper border of the obturator internus; *j*, ilio-coccygeus; *k*, ischio-coccygeus (coccygeus).

**Other Observations.**—The main lymphatics of the genito-urinary organs pass backwards in the neuro-vascular sheath of both sexes. Muscle fibres are inconspicuous in the male.

#### Utero-Sacral (Genito-Sacral) Ligament.

The utero-sacral ligament (genito-sacral ligament in the male) (old terminology, Bovin<sup>(6)</sup>) has as synonym the term "semilunar fold of Douglas" (Petit,<sup>(32)</sup> Markel<sup>(33)</sup> et alii); it obviously includes the peritoneal covering of the ligament bounding the pouch of Douglas, and is likely to be confused with the similarly named lower limit of the posterior wall of the rectus sheath. Santorini again first described this ligament in the thirteenth century. It is a strong vertical lamina of fibrous tissue, enriched with involuntary muscle fibres, owing its identity primarily to the hypogastric plexus of nerves as this passes forwards at the side of the rectum. It is therefore part of the common neuro-vascular sheath, slinging the bladder and uterus to the sacrum.

In the male the structure is almost insignificant by comparison, owing to the relative poverty of the nerve supply and the absence of muscle.

#### Allantoic Sheath.

The allantoic sheath (Delbet<sup>(40)</sup>) is also known as the vesical portion of the recto-vesical fascia (old terminology) and as the "false" lateral ligament of the bladder (with peritoneal covering). This is a lamina raised from the common neuro-vascular sheath by the umbilical artery in its ascent from the hypogastric artery. It is thus limited above by the superior vesical artery as far as the bladder at about the level of the external iliac vessels, and more anteriorly by the obliterated umbilical artery, terminating at the umbilicus. The lamina on each side ensheaths the bladder and then proceeds onwards, enclosing the urachus, as a triangular process to the umbilicus. It answers to this description only when the bladder is empty, the slack being taken up by increasing distension of the viscus. Peritoneum is closely adherent to its medial or pelvic aspect; but on its anterior and lateral aspect it forms the postero-medial boundary of the prevesical space of Retzius, or the superior pelvi-rectal space of French authors. This space therefore extends from the prevesical region up to the umbilicus, and posteriorly on each side as far as the origin of the hypogastric vessels; it is limited below by the attachment of the neuro-vascular sheath to the superior fascia of the pelvic diaphragm, but above merely by areolar connexions shutting off the extraperitoneal space of the abdomen. A knowledge of these dimensions is important for an understanding of the limits and direction of spread of extravasations. The name given by Delbet is embryologically sound, since the sheath is the sheath of allantois and umbilical vessels, retracted laterally by the latter in development.

It is regrettable that the term "false" lateral ligament of the bladder" has ever been applied to the sheath, since certain urologists have become confused by it and sometimes refer to it as the lateral ligament of the bladder, which it in no way supports. In some pelvises there is indeed a strong attachment of this lamina to the pelvic wall, where a protrusion into the obturator canal is found. This is not carried in by the obturator vessels, which, like all parietal branches of the hypogastric, lie external to the neuro-vascular sheath and its fascial offshoots. The main significance of the protrusion is, I believe, in the development of bladder diverticula. In a previous paper on this subject I have tried to show how traction as well as pulsion is a probable causative factor in many cases.<sup>(11)</sup>

#### Umbilico-Prevesical Fascia.

The umbilico-prevesical fascia (Charpy<sup>(40)</sup>) is not mentioned, so far as I am aware, by any modern writer other than Delbet, who ascribes it to Charpy,<sup>(40)</sup> although I find that Faraboeuf<sup>(30)</sup> and Velpeau<sup>(35)</sup> were also aware of its existence.

It is a lamina closely applied to the allantoic sheath anteriorly, from the bladder neck to the umbilicus, triangular in shape, having been retracted by the umbilical arteries which limit it as well as the sheath laterally. It is actually the fused double layer of peritoneum which formed the embryonic prevesical cul-de-sac, the obliteration of which nouch left the bladder an extraperitoneal viscus. It is a resistant lamina which all surgeons must recognize in performing a suprapubic cystotomy, since it must be incised or at least scratched through before the sheath and peritoneal reflection can be pushed upwards out of the way.

#### Broad Ligament.

The broad ligament superiorly is composed of a thin lamina stretching between allantoic sheath and uterus; but is dense at its base, where the neuro-vascular sheath is encountered as the parametrium.

#### Sheath of the Rectum.

The sheath of the rectum is also known as the *fascia propria recti* (Waldeyer<sup>(41)</sup>), as the rectal portion of the recto-vesical fascia (old terminology), as the meso-rectum (Gabriel<sup>(42)</sup>) and as the paraproctos (Lush<sup>(43)</sup>). Like the allantoic sheath, this sheet of tissue is carried medially by vessels and nerves from the common neuro-vascular

sheath, to ensheath the rectum. In this case, however, considerable reinforcement is obtained from the tissue carrying the superior hæmorrhoidal vessels and lymphatics posteriorly.

Laterally, near its base, the middle hæmorrhoidal vessels and branches of the hypogastric nerves produce a condensation known as the lateral ligament of the rectum (Ball<sup>(1)</sup>), and in series with it above are the rectal stalks (Elliot Smith<sup>(2)(3)</sup>), processes ensheathing the sympathetic nerve fibres from the anterior nerve roots and sacral sympathetic chain.

Posteriorly the fat-laden sheath has more claim to the term "meso-rectum". Very little of the sheath clothes the anterior aspect.

#### Presacral Fascia.

The name "presacral fascia" is my own, since till recently no other description could be found. The structure is a reinforcement of the proper fascia posteriorly, very similar to the relationship between the umbilico-prevesical fascia and the allantoic sheath in front of the bladder. However, no evidence is available to show that it is of peritoneal origin; it has enough *raison d'être* in the presence of the hypogastric or presacral nerve plexus which it ensheaths from the bifurcation of the aorta down to the neighbourhood of the coccyx, spreading out as a thin triangular lamina by virtue of the divergence of the hypogastric nerves of each side. In women, as is the case with the utero-sacral ligaments, also shown above to be sheaths of the hypogastric nerves, it is usually well marked, owing to the comparative richness of the hypogastric supply; but in men it may be recognizable only above.

Anatomists may consider this layer to be an unnecessary artefact of the scalpel; but the frequent mention of its entity by proctological surgeons gives it practical importance.

Gabriel (in 1932—that is, after my original researches into the literature) names it "Waldeyer's fascia";<sup>(4)</sup> no doubt he has good reasons for so doing, but the only references found by myself to Waldeyer's researches in this vicinity credited him with the "*fascia propria* of the rectum" and the "central point of the perineum".<sup>(5)</sup> Hence I believe that Gabriel has confused this structure with the *fascia propria*. Gabriel, in the first description of this fascia I have seen other than my own, makes the following statement:

This is a stout avascular layer of the parietal pelvic fascia which is invariably encountered during the perineal excision of the rectum . . . is both seen and felt as it comes downward from the anterior surface of the lower sacral vertebrae. In the middle line the fascia of Waldeyer is a strong sheet which passes down and becomes attached to the dorsal aspect of the ano-rectal junction, forming a suspensory ligament of the rectum at this point. In doing a perineal resection of the rectum this fascia has to be completely divided in a transverse direction at the level of the sacro-coccygeal articulation, before the meso-rectum with the vascular

pedicle of the rectum can be completely exposed. Laterally the fascia of Waldeyer becomes less distinct.

Lockhart Mummery, in his volume on rectal surgery, describes the opening up of "the deep fascia on the front of the sacrum", and Lush describes a flap "connected with the *fascia propria* by a septum which is hooked up and cut". Carson<sup>(6)</sup> quotes both of these two surgeons.

Three anatomists depicted graphically such a layer. Merkel<sup>(7)</sup> was the first, and his underlying legend described it as a process of the endopelvic fascia passing behind the rectum. More modern authors, such as Stoney,<sup>(8)</sup> in his Figure 1, and Beesley and Johnston,<sup>(9)</sup> called it "parietal pelvic fascia". It certainly does not belong to the B.N.A. entity "superior diaphragmatic fascia", and must now be included in the endopelvic fascia.

Apart from the excision of the rectum, it has importance in the operation of resecting the presacral plexus or ganglion (superior hypogastric plexus). When picked up in front of the sacral promontory for this purpose, its densest part is encountered, and by cutting it away freely and widely here one is certain of removing the whole plexus.

#### Intervisceral Septa.

The intervisceral septa, apart from the thin areolar tissue contributed by the visceral sheaths, are produced by fusion of double embryonic peritoneal layers. Although one may be permitted to describe these septa as running in a frontally vertical plane, the student must realize that such a direction of planes is procured by extreme upward traction of the viscera, and that the septa, together with the bladder base, vaginal walls and rectal ampulla, lie in an almost horizontal plane parallel with the pelvic floor. In this way it can be seen how the gynaecologists describe a shelf procured by neuro-vascular sheath, vesico-vaginal septum and pubo-vesical (cervical)

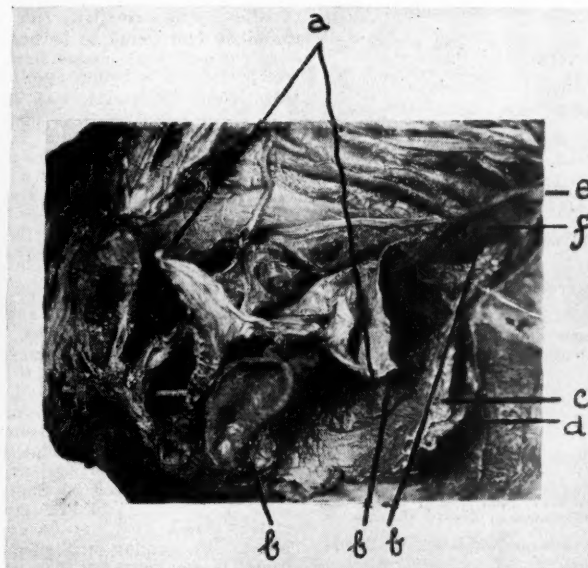


FIGURE IV.

Photograph of a sagittal hemisection of a female pelvis, showing the endopelvic fascia: a, allantoic sheath (triangular process between indication lines resected to allow inversion; mamillary process withdrawn from obturator canal clearly shown); b, neuro-vascular sheath partly visible; c, *fascia propria* of the rectum; d, presacral fascia; e, ureter, lying firstly on the medial side of the allantoic sheath, later entering the common neuro-vascular sheath; f, hypogastric artery exposed by dissection of the commencement of the neuro-vascular sheath.

ligaments in directional continuity.

The peritoneal origin of these septa, as well as of the umbilico-prevesical fascia, was explained by Cuneo and Veau in 1889.<sup>(10)</sup>

**Recto-Prostatic (Recto-Vesical) Septum.**—The recto-prostatic septum (recto-vesical in the female) is also known as the aponeurosis of Denonvillier (in the male). This process is of importance in the male, in whom it covers and reinforces the sheath of the prostate and vesicles. In surgery, when it is uncovered from the perineal approach, one enters a well-defined space, the retroprostatic space of Proust. It is characteristic of the English that a foreign prophet should be given credit in preference to one of their own, in this instance Tyrrell. Tyrrell (1794 to 1843), according to Harrison's "Dublin Dissector" of 1847,<sup>(11)</sup> described it accurately. Denonvillier's description was given as late as 1837.<sup>(12)</sup>

#### Conclusion.

In conclusion I would plead for the employment by surgeons of anatomical rather than personal names. By delving into history one will often find that the latter are

often unmerited, more often misplaced, and never descriptive.

#### Acknowledgements.

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## Reports of Cases.

### A CASE OF LOCKED TWINS.

By WILLIAM D. CUNNINGHAM,  
Sydney.

THE locking of twins is rare, occurring once in 1,000 twin labours. So far this is the first case reported from the King George V Memorial Hospital for Women, Sydney.

#### Clinical Record.

Mrs. J.H.M., aged twenty-six years, consulted me in May, 1945, complaining of sterility. She had been married four years. She had had no previous illnesses or operations. Apart from a small erosion of the cervix, examination revealed no abnormality. Her husband's seminal fluid was examined and found to be normal.

In October, 1945, under light anaesthesia, a Rubin's test was performed, a biopsy specimen of the endometrium was taken, and diathermy was applied to the eroded area. The Rubin's test gave a positive result, both Fallopian tubes being judged patent. Histopathological examination of the biopsy specimen (twenty-two days after the last menstrual period) revealed a luteal phase. In November, 1945, examination showed the erosion to be healed. A week later a Huhner's test was performed, and active spermatozoa were found in the cervical secretions.

At the end of February, 1946, the patient was found to be eight weeks pregnant. Examination of the pelvis showed it to be of normal gynæcoid type. Pregnancy was uneventful until March 30, 1946, when abortion threatened. Rest in bed for two weeks, with the administration of vitamin E (20 milligrammes per day) and hypodermic injections of "Proluton" (10 milligrammes per day for seven days) resulted in the condition settling down. Thenceforward, apart from moderate oedema of the legs, the pregnancy was uncomplicated. In the thirty-second week the diagnosis of twins was made and confirmed by X-ray examination; both were presenting by the vertex.

Labour commenced on September 9, 1946 (thirty-eighth week of gestation) at midnight, the membranes rupturing at this time. At 1 a.m. on September 11 the second stage began. By midday on September 11, despite good contractions, it was obvious that no progress was being made. The patient's general condition was good. Though the contractions were strong, they were well tolerated under pethidine narcosis. Both foetal heart sounds were normal. On three rectal examinations one head was palpated definitely in the right occipito-posterior position, the cervix being fully dilated. The position was confirmed by palpation of the back and by listening to the foetal heart. The other twin was palpated as presenting in the left occipito-anterior position, the foetal heart being best heard just to the left of the patient's umbilicus.

It was decided to make a vaginal examination under anaesthesia, and preparations were made for possible complications. Oxygen for both the mother and the infants was made ready. Blood and the transfusion apparatus were ready for instant use. Two hypodermic syringes were prepared, one filled with one millilitre of ergometrine and the other with one millilitre of "Coramine".

Under light ether anaesthesia the diagnosis of locked twins was confirmed; the first twin was in the right occipito-posterior position and the second twin was in the left occipito-anterior position, with its head wedged tightly against the other head and shoulder; thus the birth of either was completely prevented. The stage of anaesthesia was deepened to surgical anaesthesia; a mid-line episiotomy was performed; and the head of the second twin was disimpacted, then gently pushed up out of the pelvis, where it was held out of the way by an assistant. Forceps were applied to the first twin, which was then gently and easily delivered. This infant showed signs of asphyxia, but recovered after thorough suction of the naso-pharynx and administration of oxygen. Twenty-five minutes after

the delivery of the first twin the second was easily delivered with forceps and was in good condition. Thirty minutes later the placenta was expelled. No undue hemorrhage occurred. The smallness of the quantity of liquor amnii was the subject of comment.

The weight of the first twin was five pounds one ounce and that of the second was five pounds twelve ounces. They were both males. Examination of the placenta showed that they were uniovular.

#### Discussion. Theories.

There are several theories of causation of the locking of twins.

Rarely monoamniotic twin pregnancy predisposes to locking of the twins; but Quigley,<sup>(1)</sup> who studied this rare condition, has found no case of locking.

Deficiency of liquor amnii receives most support. Miles Phillips<sup>(2)</sup> postulated the loss of liquor amnii from both sacs as the cause.

A large maternal pelvis with a small fetus is another possibility.

Extension of the head may cause locking in given cases. Coleman<sup>(3)</sup> gives examples of two, the first brought about by a loop of umbilical cord, and the second by prolapse of a hand under the chin of the leading fetus. These infants both presented by the head.

Nicholson<sup>(4)</sup> postulates that the attitude of the mother at the time of rupture of the membranes and the position of the fetus in utero relative to each other are important.

Although any of the above-mentioned factors may be present, it is the element of chance that bulks most largely in the causation of locking. In this case the liquor amnii had not been drained away too long, and the uterus was relaxed between contractions. Thus the manœuvre of disimpaction was justified and Cæsarean section did not seem the method of choice.

Dawson<sup>(5)</sup> carried out Cæsarean section for impaction of two foregoing heads.

#### Comment.

In the case of locked twins in which the first twin presents by the breech and its chin interlocks with the second (presenting by the vertex), invariably decapitation of the first twin is necessary to undo the locking and deliver the second twin. This type of case I consider should be classified as one of locked twins, whereas the type of case I have described, which is less formidable, might more properly be termed one of "jammed" or "impacted" twins.

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### Reviews.

#### HYGIENE AND PUBLIC HEALTH IN INDIA.

The appearance of an eleventh edition of the well-known "Treatise on Hygiene and Public Health" by Birendra Nath Ghosh within two years of the preceding edition is in itself an indication of the quality of this work which made its first appearance in 1912.<sup>1</sup> It is noteworthy that both the

<sup>1</sup> "A Treatise on Hygiene and Public Health, with Special Reference to the Tropics," by Birendra Nath Ghosh, M.B.E., F.R.F.P. and S. (Glasgow), F.R.S. (Edinburgh); Eleventh Edition; 1945. Calcutta: Scientific Publishing Company; Sydney: Angus and Robertson Limited. 8½" x 5½", pp. 724, with many illustrations. Price: 21s.

tenth and the eleventh editions, which were printed and published in India, were produced when that country was at war with Japan, and when (in the case of the tenth edition) "the foe was at the gate". It is indicative too that while wars between nations last but a matter of years, the war of the human race against disease goes on unendingly.

The volume is obviously written to meet the needs of medical practitioners and students of public health in India itself, but none the less it holds an interest for public health workers in other lands. As might be expected, special stress is laid on tropical hygiene, and the accounts of tropical diseases are full and informative. The author acknowledges that the book has profited by the inclusion of contributions on special topics such as typhus fever, malaria, leprosy *et cetera* by noted authorities on these subjects.

In its arrangement the volume follows the traditional order of subjects; where it deals with the general principles of hygiene, it differs but little from the many treatises and handbooks on the same subject published in recent years in Britain and the United States; but where it tells in detail of Indian conditions of sanitation, customs social and dietary, it has an interest all its own. The author's comments on private slaughter-houses, on the disposal of the dead, and the chapters on the sanitation of villages, camps and fairs, all emphasize the difference in the nature of the problems which confront the Indian health officer from those met by his Australian confrère.

The introduction contains an excellent summary of the history of the development of public health legislation in Britain and an interesting account of the application of the principles evolved in that country to the very different circumstances of Indian administration. A new chapter on social medicine has been contributed by Dr. J. S. Grant, the director of the All-India Institute of Hygiene and Public Health, and this includes appendices giving very full details and examples of Indian health legislation.

The volume contains 707 pages of small but clear print and over 160 illustrations and diagrams. Although from its very nature it can hardly be recommended to those practising in temperate climes as a substitute for any of the British textbooks, it is a work which should certainly find a place on the shelves of any medical library catering for the needs of those whose work lies in the tropics.

#### A REPORT ON RADIUM AND X-RAY THERAPY IN MALIGNANT DISEASE.

INTO the small compass of 150 pages the compilers of an excellent report on the results of radium and X-ray therapy in malignant disease have compressed much valuable and authoritative information for all those (especially radiotherapists and surgeons) who have the responsibility of treating the disease so aptly called malignant. This is the second statistical report from the Holt Radium Institute in Manchester (now recognized as the leading radiotherapeutic clinic in Great Britain), compiled by the Director of the Institute, Dr. Ralston Paterson, who visited Australia four years ago, and two of his associates, Dr. Margaret Tod and Dr. Marion Russell.<sup>1</sup> It provides a complete record of the work at the Holt Institute for the five years (1934 to 1938 inclusive) since the first report was published, together with ten-year figures from 1932 and 1933, and it shows just what had happened to each patient on the fifth or tenth anniversary of treatment.

The material is presented well and clearly, with numerous statistical tables and explanatory commentaries, and the report covers the whole field of radiotherapy in the treatment of malignant disease. As the report comes from an institute engaged for the most part in radiotherapy, the results given are those of treatment by means of X rays or radium or both, and occasionally of combinations of these two modalities with surgery. Like ancient Gaul, the report is divided into three parts. The first part is a general survey of the results of radiotherapy (X-ray and radium therapy) in neoplastic disease, showing over-all results for the various types of neoplasms. This part of the report is of interest and value not only to the frank carcinotherapist, but also to every medical man, including

<sup>1</sup> "The Results of Radium and X-Ray Therapy in Malignant Disease: Being the Second Statistical Report from the Holt Radium Institute, Manchester, now part of the Christie Hospital and Holt Radium Institute, Years 1934-1938 inclusive assessed at 5 years, and 1932 and 1933 assessed at 10 years, compiled by Ralston Paterson, Margaret Tod and Marion Russell"; 1946. Edinburgh: E. and S. Livingstone Limited. 9½" x 6", pp. 148. Price: 7s. 6d.

the general practitioner, who wishes to obtain a clear idea of the prognosis in different types of malignant disease, about which his patients consult him. The second part consists of a detailed and scientifically presented report, with comparative analyses of the various techniques employed. This attempt to evaluate the different methods of treatment is of special interest and value to the radiotherapist. The third part is a ten-year report: an analysis of the results of the treatment of patients who began treatment at the institute in 1932 and 1933.

This small volume can be recommended with confidence to all those concerned in carcinotherapy, who have not only the care and treatment of the patient with malignant disease in their medical hands, but have also the responsibility of determining the most appropriate and effective method of treatment to adopt in any given case or variety of neoplastic disease. But above all, such a report as this, from such a reliable and authentic source, can be strongly recommended for careful reading and mental digestion to those surgically minded carcinotherapists to whom the field of radiotherapy is still virtually a *terra incognita*.

#### THE MANAGEMENT OF DIABETES.

INTO his book "Diabetes", Colonel Henry John has condensed the experiences of twenty-five years.<sup>1</sup> Inevitably, therefore, it contains information of value to any practitioner who has to deal with sufferers from this disease. However, the preface states that "medical officers, well trained in modern medicine, showed theoretical knowledge of diabetes, but seemed to lack experience in the practical application of this knowledge", and the question suggests itself: "Does the book answer the problems which practitioners lacking experience will ask?"

It would be much too sweeping a statement to say "No", because the book is packed with information, but we feel certain that greater definition is desirable in some of the answers. It is suggested that, in a book of 300 pages, greater clarity could have been achieved in answering the questions: (a) How do I stabilize a newly diagnosed diabetic? (b) How do I treat a patient in diabetic coma? (c) How do I manage a pregnant diabetic? These are but three of the questions which we find incompletely answered. In the first, the author states that each case must be considered on its merits, but surely there are principles to follow, such as whether the patient should be in hospital, what Calories he needs and what will be his initial insulin requirements. The second deals with an acute medical emergency, and the author leaves the reader in too great doubt concerning dosage of insulin, how best to exhibit it, the value of carbohydrate and the rationale for its use. No mention is made of the arguments Joslin uses against its employment, or of those of Rabinowitch in its favour. Thirdly, the question of whether the pregnant diabetic should be allowed to go to term is not discussed at all.

As the first sentence of this review explained, the book is the product of twenty-five years' experience with diabetes. In that twenty-five years the author has relied on blood sugar estimations for stabilization and not on glycosuria, and the practitioner who has no facilities for the former will lose a lot of the book's value. Colonel John has relied on weighed diets, and not on diets selected by measure. He has followed the hypothesis, by no means convincingly established, that hyperglycæmia causes islet damage and destruction. He has expressed all the results of this experience in a book which is thick with charts and tables, through which one wanders as through a sea. He makes reference to 232 books and articles, of which eight only are from English literature. Reference is made only three times to the well-known writings of Lawrence and Rabinowitch. For all that, the book is the product of the pen of a man who knows his subject intimately, and who has an enthusiasm which many would do well to emulate.

#### PERIPHERAL VASCULAR DISEASES.

In "Peripheral Vascular Diseases", Allen, Barker and Hines, of the Division of Medicine, Mayo Foundation, have collaborated with eleven of their *confrères*, including specialists in orthopaedic surgery, general surgery, anatomy,

physiology, "anæsthesiology" and chiropody, to produce a book of 870 pages which covers the whole field of diseases of the peripheral vessels.<sup>1</sup>

After defining the various terms, the authors describe briefly but adequately the gross and microscopic anatomy of the peripheral blood vessels. Then follows diagnosis, with a description of symptoms—pain, colour changes, ulceration, gangrene; the recording of the skin temperatures, the determination of the competency of arteries and so on are mentioned. Special methods of investigation, including angiography, oscillometry, calorimetry and numerous other tests are carefully explained. To give an idea of the care exercised in the preparation of this section alone it may be mentioned that there are 181 references at the end of the chapter.

Then follow observations on the normal and abnormal nailfold capillaries and the significance of the secretion of sweat. Full descriptions of Raynaud's disease, secondary Raynaud's phenomenon and scleroderma are then given.

Chapter X deals with diseases which primarily are effects of environmental temperature on the vascular system; those discussed include the pernio syndrome, trench and immersion foot and frost-bite.

*Liverdo reticularis* and acrocyanosis are next described, and erythromalgia (which the authors prefer to the older "erythromelalgia") receives a separate chapter, and also the *scalenus anticus* syndrome.

"Sudden Occlusion of the Arteries" is a carefully written article; this deals with embolism and thrombosis and is based on a study of 100 cases.

Then follow two excellent chapters on *arteriosclerosis obliterans* (57 pages) and *thrombo-angiitis obliterans* (72 pages). The latter is particularly good. There are 102 references to Buerger's disease. *Periarteritis nodosa* and temporal arteritis and other types of local and disseminated arteritis and aneurysms and a section on tumours of blood and lymph vessels come next. Chapters 24 and 25 deal with diseases of the veins, and considerable space is devoted to thrombophlebitis, pulmonary embolism and varicose veins. The subject of lymphoedema is clarified in Chapter 28.

The remaining part of the book is devoted to medical treatment, special techniques and surgical procedures, all of which are thoroughly assessed.

The book is beautifully printed and well illustrated, and there is a good index.

All sections show the meticulous care which has gone into the preparation of this volume, and it is obvious that the authors have not only thoroughly combed the literature, but have had extensive experience in peripheral vascular diseases.

An interesting feature of some of the chapters is the introduction of a photograph with a short historical reference to the pioneer of the particular disease which is to be described.

Nothing but praise can be offered for this book.

#### Notes on Books, Current Journals and New Appliances.

##### TALES FOR CHILDREN.

In "Pegmen Tales", Ella McFadyen has written of the adventures of three pegs in a toy ark.<sup>1</sup> Their doings take place in the dreams of the two children who made them as toys. In the tales are sandwiched in several bits of advice and information about bush life and our native animals, but the full effect of this may be cancelled in the childish mind by the antics of an evil little monkey who stows away on the ark. He remains unrepentant to the end and is by far the most engaging character of all. The illustrations and the verses of the songs sung by the pegmen are excellent. They do not play down to the children.

<sup>1</sup> "Peripheral Vascular Diseases", by Edgar V. Allen, B.S., M.A., M.D., M.S. in Medicine, F.A.C.P.; Nelson W. Barker, B.A., M.D., M.S. in Medicine, F.A.C.P., and Edgar A. Hines, Junior, M.D., B.S., M.A., M.S. in Medicine, F.A.C.P.; with associates in the Mayo Clinic and Mayo Foundation; 1946. Philadelphia, London: W. B. Saunders Company; Melbourne: W. Ramsay (Surgical) Proprietary Limited. 9½" x 6½", pp. 886, with many illustrations. Price: 75s.

<sup>2</sup> "Pegmen Tales", by Ella McFadyen, illustrated by Edwina Bell; 1946. Sydney and London: Angus and Robertson Limited. 10" x 7½", pp. 150, with many illustrations, some in colour. Price: 8s. 6d.

<sup>1</sup> "Diabetes: A Concise Presentation", by Henry J. John, M.A., M.D., F.A.C.P.; 1946. St. Louis: The C. V. Mosby Company; Melbourne: Ramsay (Surgical) Proprietary Limited. 8½" x 5½", pp. 300, with illustrations. Price: 24s. 6d.

## The Medical Journal of Australia

SATURDAY, APRIL 19, 1947.

*All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.*

*References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.*

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### THE MEETING OF THE FEDERAL COUNCIL.

THE meeting of the Federal Council of the British Medical Association in Australia reported in this issue is the first to be held with increased representation of the Branches. The increase and its significance were discussed at some length in these columns last December after the Queensland notice of motion seeking the increase had been adopted at the November meeting. It will be remembered that all the Branches did not at once agree to the increased representation. The adoption by the people, however, of the Federal Government's referendum proposals about social security brought unanimity on the matter. The indication is therefore that the Branches will be united when they have to consider any action that governments may wish to take in relation to medical practice or in any moves that they themselves may wish to make for the improvement of medical service for the community. If any proof of this is needed it will be found in the short cut that has been adopted in the procedure for the laying down of the Federal Council's policy in matters discussed with the Branches. This has to do with the power of the Federal Council "to bind the Branches", of which we have heard so much. It must be remembered that in the words of the resolution on which the short cut was based, action was taken "in view of the urgency of the matters before the association". What has been decided may be shortly explained as follows: When Branch councils have considered a matter and have reported the results of their discussions to the Federal Council, the decisions of the Federal Council, after it has deliberated on the submissions of the Branch councils, shall become the policy of the Branches. Under the old arrangements the Federal Council would have had to submit its final views once more to the Branches. It was also determined that the Branch councils should confer on the Federal Council the constitutional power to state the decisions to all interested parties as the Association's policy. Attention should be drawn to the proviso mentioned in our report—that when any fresh facts of importance come to light after Branch councils have dealt with a

matter, such facts should be communicated to the Branch councils before the Federal Council makes its binding decision. Clearly if Branch councils are to confer powers on the Federal Council legal processes will be involved. It is therefore of interest to note the legal opinions quoted at the recent meeting. Many will agree that the "gentlemen's agreement" into which the matter resolves itself is probably the most satisfactory kind of agreement for such a professional body as the British Medical Association.

Reference to the unanimity of the Australian Branches will direct the thoughts almost automatically to the Parent Body in England and to its Branches in the different parts of the Empire. The reference in our report of the meeting to the Dominions Committee of the Parent Body should not pass unnoticed. As the committee's memorandum states, it cannot be maintained that bonds between the British and the different Dominion associations are being drawn tighter, and this is unfortunately also true of certain parts of the Empire. It is something with which we as doctors and citizens of the Empire should be concerned. It will be of interest to see what will be decided by the committee that is being set up in the Old Country to report on the question of "contact and cooperation" between the members of the profession in the Dominions and Great Britain and in the Dominions themselves. One view may and should be advanced—the Australian Branches should from time to time receive official visits from officials of the Parent Body. Further reference will be made on a subsequent occasion to the enormous amount of good that such visits would do.

As was to be expected, the *Pharmaceutical Benefits Act*, 1944-1945, came up for discussion. The Commonwealth Government had done nothing about it since the successful action in the High Court of Australia last year by the Attorney-General of Victoria on the relation of the Medical Society of Victoria. However, the intentions of the Government, since the acceptance of the referendum proposals in regard to social security, are shown by some remarks made by the Minister in the Senate on March 5, 1947, when he was asked by Senator J. J. Arnold what progress was being made in the negotiations with the British Medical Association or with medical men in regard to a medical scheme for the Commonwealth. The Minister, Senator the Honourable N. E. McKenna, is reported in *Hansard* to have replied in the following terms:

As the honourable senator is aware, it was announced, prior to the general elections last September, that, if returned to office, the Government would implement such a scheme. The Prime Minister stated that the scheme would be free, comprehensive, and of the highest technical excellence. Discussions have been held between the Commonwealth and the States at the official level. These are to be followed by a conference of Commonwealth and State Ministers for Health on the 14th and the 15th of April. There has not yet been a conference between the Government and the medical profession regarding the proposed national medical scheme, but quite recently I invited the Federal Council of the British Medical Association to confer with me regarding the pharmaceutical benefits scheme. The council is meeting in Melbourne this week, and we are endeavouring to arrange a conference later in the week. There are considerable difficulties to be encountered in the establishment of a national medical scheme. Many aspects have to be examined. However, I hope to make a recommendation to the Government for the setting up of the necessary administrative machinery, and to confer upon the administrative body all the powers necessary to set the free medical scheme in operation.

It is a pity that no conference could be arranged between the Minister and representatives of the Federal Council

while they were in Melbourne. The Minister in his letter to the President of the Federal Council stated that the Government had been giving consideration to aspects of the act which had been criticized by the High Court; he also stated that he wished to confer with him on aspects of the act with which members of the medical profession might be concerned. This, with the fact that the Federal Council's attitude as set out in the discussion at the recent meeting is not so uncompromising as it used to be, gives ground for hope that wiser counsels may prevail among members of the Government and that something of real benefit to the community may result.

The rehabilitation of ex-service personnel suffering from a disability not deemed to be due to war service gave rise, as it did on a previous occasion, to an interesting discussion. Members are urged to read it and also the discussion at the November, 1946, meeting reported in this journal last December. It is quite clear that rehabilitation of a person suffering any kind of disability demands attention not only to the affected part or organ, but to the whole individual. This point has been emphasized in a recent discussion by H. A. de Boer, of the International Labour Office.<sup>1</sup> He writes that treatment "must not be confined to the damaged part, but must be directed to maintaining the fitness of the rest of the body and to infusing the patient with courage, and even the specialist must attend to this aspect". He adds that "emphasis must be laid, not on what the patient has lost, but on what he retains, and on the new strength he will win in the overcoming of his handicap". Enlightened rehabilitation practice, as de Boer so truly observes, recognizes that injury to a part of the body affects the whole body and still more the mind of the patient. There can be no doubt that the patient's own doctor, if he has one, is better fitted than anyone else to undertake this treatment of the whole person, body and mind. Though special medical and surgical procedures may have to be undertaken and special apparatus and occupational therapy will probably have to be employed, the patient should be allowed to remain as far as possible in the hands of those who know him and are therefore best qualified to treat him. One point emphasized by de Boer, and one that calls for the most careful determination, is that the success of a rehabilitation programme should not be spoilt by an unwise policy in the field of cash benefits. He thinks that it would be unfortunate if the worker who had a permanent physical impairment should find that every improvement in his earning capacity or earnings was accompanied by a corresponding decrease in his pension. He admits that it is difficult to devise a rational basis for computing pensions other than on a basis of earning capacity or earnings; he points out, however, that in several countries and recently in Great Britain scales of compensation have been adopted which prevent the pensioner from being penalized by his exertions. This view, which cannot be discussed in this place, opens up problems that lie at the root of many of our national difficulties.

This short commentary on the meeting of the Federal Council cannot be closed without an expression of satisfaction that a session of the Australasian Medical Congress (British Medical Association) is to be held at Perth in August, 1948. Dr. D. M. McWhae has been appointed president and an executive committee will doubtless be

appointed without delay. Members of the Branches will be informed regularly in the columns of this journal of the plans as they materialize. In the matter of congresses plans are best made well in advance, and Branch members are urged to begin to think at once about a journey to Perth, one of the most beautiful and gracious cities in Australia.

## Current Comment.

### THE DEATH RATE FROM LEUCHÆMIA.

It happens that leuchæmia has recently attracted some attention owing to the general interest now taken by the public in radio-activity, since radio-active salts have for some time been tried in the treatment of the disease. Not very much new is known about it, though its blood morphology in all its varieties is better understood, nor is there any essential novelty about this condition, which has been well known since Hughes Bennett described it over one hundred years ago. But it is distinctly of interest and importance to know if it is really becoming more frequent, or if what seems to be an increasing incidence is in truth a reflection of more accurate diagnosis. Milton S. Sacks and Isadore Seeman have analysed the statistics for the United States of America since 1900, and note that very few studies of mortality figures have been made.<sup>2</sup> As the disease is invariably fatal, so far as we know, or at least does not appear to be curable, the mortality statistics should give reliable information when compared over a period of years. The only cautions to be observed are that changes in age distribution and in methods of tabulation of disease causing death and errors of diagnosis may introduce fallacies. It seems reasonable to admit that it is likely that refinements in diagnosis and the spread of more accurate hæmatological knowledge might produce a certain rise in the figures. Until 1920 Hodgkin's disease was included in the same general heading as leuchæmia, and after that date a new heading of "pseudoleuchæmia" was introduced. However unsatisfactory this might be, it could only vitiate the figures for true leuchæmia by under-estimating them. The authors remark that aleuchæmia was probably often included under the category of pseudoleuchæmia. We may perhaps regret that either name was ever introduced into medicine. Since 1938 the name pseudoleuchæmia has not been employed in the international list of diseases used in America. These matters are worth thinking about, for they illustrate how very difficult it is to obtain any really reliable figures of mortality rates. In regard to the total death rates it was found that these were higher among the white population than the coloured. The figures have been compared with the rates for England and Wales, Canada and the city of Paris, and show close correspondence. Death rates adjusted for age and sex have also been computed. For the year 1931 these figures ranged from 2.29 to 3.03 per 100,000 population: the United States figures were somewhat higher, 3.48. In all these countries the death rate was higher in males than in females, a fact which must be in some way significant, since it is constant in all series and should be subject to no important fallacies. It is known that on the whole leuchæmia affects persons in the older age groups more than younger people, though the death rate is higher under the age of five years than in any intermediate period up to the age of forty-five years. Acute forms of the disease occur more frequently in younger people; over the age of forty-five years the chronic forms are more common. It is, of course, well known that the chronic myeloid variety is often compatible with survival for a number of years. Of greater interest than any of these findings is the rising of the mortality rate of recent years. In the United States the recorded rate has risen continuously from 1900, and since 1930 the rise has been steadily accelerating. In 1920 the

<sup>1</sup> *International Labour Review*, July-August, 1946.

<sup>2</sup> *Blood*, January, 1947.

figure was 1.9 per 100,000 population; in 1940 it was 3.7, nearly doubled. This is not due to any increased changes in the age distribution of the people, for the same increase is discernible in every age group. This rise seems rather too great to be accounted for by improvements in diagnostic methods, and when it is realized that since 1940 more than 5,000 persons have died in the United States of America from leucæmia in one or other of its forms, it will be seen that it is not a negligible disease. Putting it in another way, we find that in 1942 more people died from the leucæmias than from smallpox, meningococcal meningitis, scarlet fever, poliomyelitis, malaria, typhoid fever and diphtheria combined. This is no doubt a tribute to preventive medicine.

In an editorial William Dameshek<sup>1</sup> asks the question: "Is leucæmia increasing?" He thinks that there is an overall increase, in spite of the undoubted improvement in the methods of investigation of the blood as a routine measure. He also propounds the more intricate question: "What is the cause?" After remarking that the after history of persons exposed to radiation from atomic bombs in Japan will be important for future study, he wonders if there may be something malign in the effects of some of the chemicals used not only in medicine, but in everyday industrial, social and domestic life. Great interest is now taken in the toxic properties of most of these substances, but notwithstanding this we have to admit that as yet we do not know. Beyond saying that it is well known that the hæmopoietic system is very sensitive, particularly in some persons, to various nutritional and chemical influences, we can only watch the future with interest, remembering that the study of an uncommon disease may yet yield information touching a much wider field.

#### SCHOOLS IN THE BRITISH ZONE IN GERMANY.

THE newspapers lately have reported unrest and disturbances in various parts of Germany including the British zone. These reports naturally give rise to disappointment and fears for the future, and many persons doubt whether the German people can be weaned from their old way of living. Those who are hopeful look to the education of children in the schools. An interesting statement has been published in *The Times* of February 4, 1947. If reliance can be placed on this report, the outlook may be described as encouraging.

The handicaps under which education has been carried on in the British zone of Germany are difficult beyond imagination. There is a shortage of teachers. In elementary and intermediate schools there are just under 70 children to each teacher and in secondary schools just over 28. In the elementary schools in one district in Schleswig-Holstein there are 121 children to each teacher. In one district a single master had to cope with 141 children; he had only one book and that was borrowed from a library. Buildings are so scarce that in many schools work has to be done in shifts. Rather over half the children are having part-time schooling. The shortage of equipment is serious. In many schools there is no ink and children have to take it in turns to use a pencil. The oddest scraps of paper are used for exercise books. Text-books are scarce in the extreme. The master teaching a foreign language, who does not have to write out every word of a translation on a blackboard, is fortunate.

When the war ended, school life generally was at a standstill, but the education branch of the Control Commission has made it possible for education to be resumed. One of the problems was the denazification of teachers. The view is expressed that the process has been too rigid. Over 16,000, nearly a quarter of the pre-war number of teachers in the zone, have been removed from their post or been refused permission to teach. In spite of this, when the last count was made in September, 1946, all but about 20,000 of a total school population of over 3,100,000 were receiving some education. The most hopeful sign

for the future, we are told, is the excellent relationships which have been formed between the British education officers and the German teachers and education officials. The British official is welcomed as a friend who is certain to understand the problems of the headmaster. The extraordinary shortages of equipment have brought about a kind of unofficial working alliance between Englishmen and Germans concerned with education. The most spectacular achievement has been the institution of the daily school meal in all the larger towns. The meal may be meagre, but it means the difference between a diet which is just adequate if the normal ration is obtainable, and definite malnutrition. Its psychological effect is even greater. It is regarded as certain proof that the British do not mean to destroy the German nation. It is stated that the good relations formed assume a particular importance if education is to be handed over to local governments. The education officer will then become adviser, inspector and censor rather than controller. If it had not been for the mutual cooperation of the last eighteen months this handing over might well be a dangerous step. There is no escape from the conclusion that the real reeducation of Germany has not yet begun.

In the old days educational methods in German secondary schools were too often unsatisfactory. Too many teachers interpreted literally Fichte's doctrine that education must ensure that it totally destroys the freedom of will. In education Germany has returned not so much to the days of the Weimar Republic as to those of Kaiser William II. For all that, the final impression left on a visitor is of the almost incredible patience and resource of teachers working in conditions that would seem to make their work impossible. Every here or there a teacher or a school is met which gives real hope for the future.

#### KERATOSIS OF THE LARYNX.

KERATOSIS of the larynx is stated by Logan Turner to be very rare. The onset is slow and hoarseness is the only symptom. The lesion consists of a chalky or snowy white patch or patches situated on one or both vocal cords. On microscopic examination the tissue is found to consist of layers of cornified epithelium underlying which are columnar-shaped and squamous epithelial cells. Logan Turner lays stress on the need to differentiate the condition from early epithelioma of the vocal cord. Jackson and Coates point out that keratosis of the larynx is not strictly speaking a tumour of the larynx, but that it must be differentiated from newgrowth. They state that diagnosis can be made only by histological examination of a specimen removed by direct laryngoscopy. In their opinion keratosis and similar overgrowths of epithelium are to be regarded clinically as potentially precancerous. L. H. Clerf describes keratosis, hyperkeratosis or leucoplakia as primarily a localized benign hyperplasia of epithelium which does not invade the submucosa.<sup>1</sup> He reports four cases, which show how long the clinical history of the condition can be. These four cases occurred in men aged from thirty-eight to fifty-five years. The four patients were under Clerf's observation for periods varying from two to four and a half years before a diagnosis of carcinoma was made. In addition to this it was known that keratosis had been present for eight months in one case, for two years in two cases and for three years in one case before the patients were examined by him. Clerf concludes that in the cases described by him the condition was keratosis in the beginning and that carcinoma developed later. He can find no evidence that the keratotic cells assumed a malignant character; at the same time this would appear to be a justifiable conclusion. Clerf states that clinical observations indicate that although keratosis is *per se* benign, there are a certain number of keratoses which either become carcinoma or predispose to its development. To adopt the latter view is surely more speculative than to hold the former.

<sup>1</sup> *The Journal of the American Medical Association*, December 7, 1946.

<sup>1</sup> *Ibidem*.

## Abstracts from Medical Literature.

### DERMATOLOGY.

#### Uses and Abuses of Penicillin in Dermatology.

FRANK E. CORMIA AND WILLIAM D. ALSEVER (*Archives of Dermatology and Syphilology*, August, 1946), discussing the use and abuse of penicillin in dermatology, state that penicillin is a valuable adjunct in the management of treatment-resistant pyoderma. It should never be administered for pyoderma unless a test for sensitivity to penicillin has been made. The best method of administration of penicillin for pyoderma is by local applications in a water-soluble ointment base. A concentration of 500 units of penicillin per gramme of ointment is efficacious when the causative organisms are sensitive to penicillin in a concentration of not more than two units per millilitre by the filter paper method and 0.1 unit per millilitre by the Cooke method. When the causative organisms are sensitive to penicillin only in concentrations greater than those just mentioned, the amount of penicillin in the ointment should be appropriately increased. Supplementary therapy with sulphonamide compounds has been of limited value in the authors' series. Inadequate dosage and short periods of administration of penicillin are believed to predispose to the development of resistance to it.

#### Molluscum Contagiosum Treated with Sulphadiazine.

CARL W. LAYMON (*Archives of Dermatology and Syphilology*, June, 1946) states that he observed a case of molluscum contagiosum in a child, in which the lesions were so numerous that local therapy would have been a formidable procedure. Chemotherapy with sulphadiazine was completely successful. The patient was a boy, aged twelve years, who reported for examination on March 8, 1945. There were about a hundred lesions of molluscum contagiosum on the buttocks, in the intergluteal cleft and on the scrotum. Treatment with sulphadiazine (fifteen grains given orally four times a day) was instituted on March 15. Within one week the lesions had diminished in size considerably. The dosage of the drug was reduced to seven and a half grains four times a day, and within another week the only signs of the disease were pink macules at the sites of former nodules. There was no recurrence in several months.

#### Tyrosinase in the Treatment of Diseases of the Skin.

ANDREW G. FRANKS, WILLIAM L. DOBES AND JACK JONES (*Archives of Dermatology and Syphilology*, May, 1946) summarize an article on tyrosinase in the treatment of skin diseases as follows. Cutaneous lesions in 47 patients were treated by application of wet dressings and ointment containing tyrosinase. This drug was found to be effective in *impetigo contagiosa*, *pyoderma* and *dermatitis repens*, but of limited benefit in *syphilis vulgaris*, *ecthyma*, *acrodermatitis perstans*, *nummular eczema* and secondarily infected eruptions. Tyrosinase therapy is of little practical value in the treatment of the ordinary diseases of the skin. Only superficial

inflammatory eruptions may be adequately treated. Secondarily infected eruptions may also respond, especially if caused by the staphylococcus or streptococcus.

#### Penicillin in Dermatology.

ORLANDO CANIZARES (*Archives of Dermatology and Syphilology*, July, 1946) states that the remarkable antibacterial properties and the relatively low toxicity of penicillin make it a logical agent to use against cutaneous pyogenic infections. The author states that a total of 174 patients with dermatological diseases were treated with different topical preparations containing penicillin. Satisfactory results were obtained in cases of *impetigo*, *syphilis vulgaris*, infectious *eczematoid dermatitis*, streptococcal *dermatitis*, *ecthyma*, *dermatitis repens* and some cases of folliculitis and *hidradenitis suppurativa*. In half of the cases of secondarily infected dermatitis, improvement followed penicillin therapy. Nummular eczema responded well. Intramuscular administration of penicillin was associated with topical applications in cases of furunculosis. One patient with erysipeloid of Rosenbach was cured by the injection intramuscularly of 100,000 units of penicillin.

#### The Management of Bacterial Infections of the Skin.

DONALD M. PILLSBURY (*The Journal of the American Medical Association*, November 23, 1946) discusses the management of bacterial infections of the skin. As treatment against *impetigo*, *ecthyma*, acute infectious *eczematoid dermatitis*, and acute pustular folliculitis, the author recommends thorough gentle cleaning of the involved site by means of soap and water, compresses of isotonic solution of sodium chloride or 0.1% potassium permanganate solution for twenty minutes two to six times a day; gentle mechanical opening of all pustules and careful removal of softened cutaneous debris. This is combined with penicillin therapy. The author thinks that penicillin given by injection, especially in vehicles designed to slow the absorption and maintain an adequate serum concentration of the drug for twelve to twenty-four hours, is preferable to local penicillin therapy. However, in simple *impetigo*, for instance, local penicillin therapy is much simpler and less expensive. A concentration of 500 units per millilitre or gramme is best, though, in all-grease vehicles, a higher concentration may be necessary to allow sufficient diffusion of penicillin to the site of infection. If local penicillin therapy is not observed to produce improvement within seventy-two hours, a change to something else is advisable. Ammoniated mercury, silver nitrate, alibour water and "Quinolol" ointment, in that respective order, are the best alternatives in the author's experience. The author goes on to suggest treatment of acute secondarily infected dermatitis, eczema, dermatophytosis, and similar lesions, as below: (i) Penicillin should not be applied locally, except in secondarily infected dermatophytosis; parenteral injection of penicillin is the treatment of choice. (ii) Sulphonamides should not be applied locally. (iii) Non-irritating mildly antiseptic soaks or compresses are useful. These may be used frequently, but the diseased skin should have adequate exposure to the air

several times a day. Gentle mechanical débridement of the affected site, care being taken not to injure underlying or surrounding skin, is important. (iv) If penicillin is not promptly effective, a change to a sulphonamide compound by mouth should be considered. (v) If there is an underlying dermatophytic infection, the use of a preparation containing undecylenic acid is recommended. Irritating fungicides are harmful. The author also suggests treatment for chronic infections, including those of the eczematous type: (i) Penicillin should not be used locally, except possibly in non-eczematous chronic follicular infections and ulcers. Parenteral injection is much the preferable method of administration. (ii) Sulphonamides should never be applied locally. (iii) Such preparations as Castellani's carbol fuchsin paint, 2% silver nitrate solution or, if there is an underlying seborrhoeic dermatitis, a sulphur-salicylic acid-tar preparation, are variously useful.

#### Allergic Dermatoses Complicating Penicillin Therapy.

GERHARD H. BAUER (*Archives of Dermatology and Syphilology*, September, 1946) finds that there are three clinical types of reaction to the commercial penicillin: (a) urticaria, (b) the erythematous-vesicular group of reactions, and (c) contact dermatitis. The first two follow injection only, while contact dermatitis occurs only after external exposure. Urticaria, the complication most frequently seen, is the result of a mechanism analogous to that observed in the classical urticaria of serum allergy. Evidence indicates that the acute oedematous swelling characteristic of the weal is due to the increased capillary permeability which follows the release of a histamine-like substance at the subpapillary level of the skin. The erythematous-vesicular group of reactions includes the less clearly defined eruptions appearing within twenty-four hours after intramuscular administration of penicillin is initiated. They involve primarily the groins, hands and feet, in which areas there frequently has been some previous vesicular eruption suggestive of a dermatophytosis. The evidence strongly suggests that this erythematous-vesicular reaction is closely related to, if not identical with, what dermatologists call a dermatophytid. Contact dermatitis as a complication of penicillin therapy is indeed rare if one may judge from the meagre reports found in the literature. External contact with the allergen in relatively concentrated form is a prerequisite. The growing popularity of penicillin preparations designed for external use is certain to increase the likelihood of this type of reaction. The author comments that it is now obvious that the mechanism behind the erythematous-vesicular reactions to penicillin is analogous to that producing the dermatophytid reactions. It is known that a number of fungi, including *Penicillium notatum* and the trichophytons, have a common antigenic factor. The sequence of events begins with a primary focus in one of the areas susceptible to fungous infection. The circulating products of the fungus containing the common antigen then may sensitize the skin of the hands, feet and groin or even the skin of the trunk. This sensitization may not become clinically obvious until a later date when adequate exposure to the

antigen again occurs. This may take the form of an intramuscular injection of penicillin or a reinfection by the original fungus. The erythematous vesicular reactions are usually self-limited, even though penicillin therapy continues uninterrupted. In his summary and conclusions, the author reports that two cases of proved contact dermatitis due to commercial penicillin sodium were observed and studied. Although the exact allergen could not be identified, studies indicated that neither crystalline penicillin sodium G nor the penicillin culture medium was responsible.

## UROLOGY.

### Circumcaval Ureter.

L. F. GREENE AND W. M. KEARNS (*The Journal of Urology*, January, 1946) describe a case of circumcaval ureter, a condition in which the upper part of a ureter winds behind and around the vena cava and is partly obstructed in so doing. Only 36 such cases have previously been described in the literature. Diagnosis was made before operation, which has been accomplished only once before. Moreover, cure was effected by the plastic operation of dividing the ureter, placing it anterior to the vena cava and re-implanting it into the apex of the renal pelvis. Success in such a plastic attempt has only once before been reported. The authors consider that nephrostomy, deviation of urine and prolonged rubber catheter splinting of the ureter are necessary measures in the securing of a good result. The administration of penicillin and sulphonamides during healing are also a most valuable aid in the achievement of success.

### Prognosis in Renal Tumours.

C. L. DEMING (*The Journal of Urology*, June, 1946), from a study of a series of eighty-two cases, states that the prognosis of malignant renal tumours is much worse than is indicated by five-year follow-up reports. In this series about 20% of patients lived five years, about 10% lived ten years, and nearly 10% are living without evidence of tumour. The fact that some died of the disease after the tenth year indicates that even a ten-year follow-up is not sufficient for the establishment of a cure. The problems involved in renal malignant neoplasm are manifold, embracing hereditary, congenital and acquired factors. Biological proof in addition to gross and microscopic examination for signs of malignant disease must be considered. Since treatment by surgery and irradiation gives little more than 10% control of renal tumours, little improvement in end results can be expected until some of these wider problems are solved. It is considered likely that in cases of long control, strict pathological and biological tests would indicate non-malignancy.

### Doubtful Carcinoma of the Prostate.

J. A. LAZARUS (*The Journal of Urology*, June, 1946) states that discrepancy between clinical and pathological data in doubtful carcinoma of the prostate may result from (a) failure to cut sections for a sufficient number of blocks, or (b) failure to supply the pathologist with tissue from the part harbouring the malignant

focus. Even in so-called suprapubic prostatectomy the false capsule (true prostate) may contain carcinomatous foci, but it is not removed. Perineal biopsy (by open approach) may determine malignancy when endoscopic resection biopsy fails to do this. The author advises that in all cases in which clinical signs indicate malignancy despite a contrary opinion from the pathologist, the surgeon should proceed with the modern anti-androgen therapy.

### Repair of Hypospadias.

A. B. CECIL (*The Journal of Urology*, August, 1946) states that the Bucknall operation has much in its favour, but has one outstanding fault, namely, that hair from the scrotal skin utilized for the new urethral tube grows in the urethra, with consequent calculus formation. The new urethral tube is constructed from the skin of the penis by means of turning up flaps from longitudinal incisions which meet proximal to the hypospadiac opening. A longitudinal incision is then made through the scrotal mid-line and its edges are dissected outwards to the corresponding flaps of skin along the penis. This buries the penis in the scrotum, as in the Bucknall operation. When healing is complete the penis is lifted up from the scrotum by lifting a wide rectangular flap from its surface. The edges of this flap are sutured under the penis to make the ventral skin sheath of the latter. Diversion of urine during these plastic steps is obtained by perineal urethrostomy.

### Rupture of the Urethra.

V. VERMOTEN (*The Journal of Urology*, August, 1946) discusses urethral rupture due to pelvic fracture and characterized by upward displacement of the prostate. This occurs when the canal is completely torn across just proximal to the urogenital diaphragm. It is important to try to make a diagnosis of this type of rupture by clinical means. Immediate open perineal approach to obtain suture of the urethra is not practicable because of the technical surgical difficulty of deep perineal approach, except in expert hands, and also because of the presence of shock and of severe pelvic fracture. It is unwise to persist with catheterization attempts in any form of urethral rupture. The author proposes rectal palpation to diagnose displacement of the prostate. The gland will be found freely movable and its apex can be pushed upwards with ease. If the prostate cannot be dislodged with the examining finger the urethra is not completely torn across. It must be remembered that a bladder rupture may also be present, but this can be attended to when suprapubic cystostomy is done, which is early, that is, as soon as the degree of shock permits. When the bladder is opened, the prostate is pushed well down and a 20 F. Foley balloon catheter on a curved stylette is passed from the external meatus along the urethra, and is guided through the prostatic urethra by means of a finger or sound passed into the internal meatus from the bladder. Traction is applied to this balloon catheter for two weeks, and it is allowed to remain in position for another two weeks before removal. The traction is necessary to keep the apex of the gland down in contact with the membranous urethra and so to reduce the chances of after-stricture. Traction

is best made by attaching the catheter to a band placed below one knee, the attachment point being on the lateral side of the knee, so that if the patient flexes his thigh the traction will not diminish. Suprapubic and prevesical drainage continue for the first two weeks, and they are suppressed during the subsequent two weeks in which the balloon catheter is allowed to drain the bladder without traction. If the patient is first seen by the urologist after suprapubic cystostomy has been established, even if an ordinary catheter has been left in the urethra, after-stricture is sure to be the final result. Therefore it is best to dissect out the suprapubic tract, immobilize the bladder, force the prostate as far as possible from the pubis, push it down and proceed with the balloon catheter traction as described above.

### Fibrinogen Coagulum in Pyelolithotomy.

J. E. DEES (*The Journal of Urology*, September, 1946) describes a new technique specially designed to ensure removal of all renal calculi, when the latter are small, multiple and in situations difficult of access. It is based on the fact that when 2% clotting globulin solution is injected into the renal pelvis and calyces at the same time as a fibrinogen solution, a coagulum is rapidly formed which is translucent, elastic and very tough. Immediately before the coagulum forms, the solution penetrates all the infundibula and calyces and surrounds all calculi therein. After the coagulum forms an incision is made into the renal pelvis and the coagulum is carefully withdrawn. This elastic tenacious mass comes out in one piece, forming a mould of the pelvis and calyces, and draws out with itself all contained calculi which are small enough to pass through the necks of the infundibula. The latter necessity is the chief disadvantage of the method, which, however, is generally highly successful. In clinical cases in which infection was only slight, the coagulum was successful in incorporating and removing all the stones; but with severe infection where the urine is slimy, mucoid and thick, a surface tension phenomenon interferes with proper formation of the coagulum. To overcome this difficulty a number of wetting and detergent agents were tried, the most successful being a 0.1% solution of "Aerosol", with which the pelvis and calyces are irrigated just before the fibrinogen mixture is injected.

### Urinary Extravasation.

D. A. BEARD (*The Urologic and Cutaneous Review*, September, 1946) states that since the advent of modern chemotherapy there has been a gradual reduction in the morbidity and mortality following urinary extravasation. Treatment must be aggressive, extensive and prompt, being directed at the systemic manifestations as well as the local lesions. Of prime importance is diversion of the urinary stream by suprapubic cystostomy. The area involved with the phlegmon is best drained with multiple small incisions connecting one to another by through-and-through Penrose drains. Blood transfusion is sometimes indicated while sulphonamides and penicillin are invariably required. Uremia is a frequent troublesome and dangerous complication and is treated by intravenous use of glucose.

## British Medical Association News.

### MEETING OF THE FEDERAL COUNCIL.

AN extraordinary general meeting of the Federal Council of the British Medical Association in Australia was held in the Medical Society Hall, Albert Street, East Melbourne, on March 3, 1947, Sir Henry Newland, the President, in the chair.

#### Representatives.

The following representatives of the Branches were present:

*New South Wales:* Dr. W. F. Simmons and Dr. H. R. R. Grieve.

*Queensland:* Dr. A. E. Lee and Dr. H. W. Horn.

*South Australia:* Sir Henry Newland, C.B.E., D.S.O., and Dr. R. J. Verco.

*Tasmania:* Dr. C. Craig and Dr. T. Giblin.

*Victoria:* Dr. F. L. Davies and Dr. T. E. Victor Hurley, C.B., C.M.G., V.D.

*Western Australia:* Dr. F. W. Carter and Dr. N. M. Cuthbert.

#### Articles of Association.

The General Secretary explained that the extraordinary general meeting had been called to give effect to a decision of the meeting of the Federal Council held in November, 1946. At this meeting it had been resolved that steps should be taken to modify the composition of the Federal Council so as to secure a representation of the Branches more proportional to their strength. This was contingent on the acceptance by the Branches of the proposed altered constitution. It had been resolved that the primary modification of the Council should consist of four representatives from New South Wales, three representatives from Victoria, and two each from Queensland, South Australia, Western Australia and Tasmania. The General Secretary said that the Branches had agreed to accept the proposed altered constitution, and added that to give effect to the decision it was necessary to alter the Articles of Association. The regulations which had been drafted were then submitted to the meeting and carried, on the motion of Dr. A. E. Lee, seconded by Dr. H. W. Horn. They are as follows:

(a) The following Regulation shall be substituted for Regulation 8:

8. The Council of each Branch shall be entitled to elect annually persons as members of the Federal Council in accordance with these Regulations. The Council of the New South Wales Branch shall be entitled to elect annually four persons as members, the Council of the Victorian Branch shall be entitled to elect annually three persons as members, and the Council of each of the other Branches shall each be entitled to elect annually two persons as members. Where at the time of this Regulation coming into force the number of persons elected as member by the Council of any Branch and actually members of the Federal Council is less than the full number of persons which such Branch Council is entitled to elect as members pursuant to the foregoing provisions of this Regulation there shall be forthwith admitted to membership such additional person or persons as shall have been previously provisionally elected by such Branch Council as members as shall be required to make up the full number of persons which such Branch Council is entitled to elect as members under the foregoing provisions of this Regulation.

(b) In Regulation 9 all words and figures from the commencement of such Regulation down to the words and figures "the thirtyfirst day of December 1933" inclusive shall be omitted and the following words and figures substituted therefor:

Save as hereinafter provided and subject to the provisions of Regulation 12 hereof, the term of membership of the Federal Council except in the case of any additional persons admitted to membership under the provisions of the last preceding Regulation, shall be for one year from the first day of January in the year succeeding the date of election. Provided that in the case of additional persons admitted to membership under the provisions of the last preceding Regulation the term of membership shall expire on the thirtyfirst day of December next following their election.

(c) In Regulation 10 all words from the commencement of such Regulation down to the words "the thirtieth day of January next succeeding the date of election" inclusive

shall be omitted and the following words and figures substituted therefor:

The election by the Councils of the respective Branches of persons as members (other than any additional persons admitted to membership pursuant to the provisions of Regulation 8 hereof) shall take place not later than the thirtyfirst day of December in each year and such Councils shall forward to the Secretary of the Federal Council a notification of the result of such election so that the same shall be received by the Secretary not later than the thirtieth day of January next succeeding the date of election.

(d) The following words shall be added at the end of Regulation 33:

Provided that in the case of additional persons admitted to membership pursuant to Regulation 8 hereof all such persons shall be deemed to have had notice of every meeting of the Federal Council held within fortytwo days after the time of such Regulation coming into force and of the day and hour of any such meeting and of the general nature of the business of such meeting.

A meeting of the Federal Council of the British Medical Association in Australia was held at the Medical Society Hall, Albert Street, East Melbourne, on March 3, 4 and 5, 1947, Sir Henry Newland, the President, in the chair.

#### Representatives.

The following representatives of the Branches were present:

*New South Wales:* Dr. W. F. Simmons, Dr. H. R. R. Grieve, Dr. A. J. Collins, M.C., D.S.O., and Dr. Angus J. Murray.

*Queensland:* Dr. A. E. Lee and Dr. H. W. Horn.

*South Australia:* Sir Henry Newland, C.B.E., D.S.O., and Dr. R. J. Verco.

*Tasmania:* Dr. C. Craig and Dr. T. Giblin.

*Victoria:* Dr. F. L. Davies, Dr. T. E. Victor Hurley, C.B., C.M.G., V.D., and Dr. H. C. Colville.

*Western Australia:* Dr. F. W. Carter and Dr. N. M. Cuthbert.

#### Minutes.

The minutes of the meeting of the Federal Council of November 12, 13 and 14, 1946, which had been circulated amongst members, were taken as read and signed as correct.

#### Articles of Association.

The special resolutions adopted by the extraordinary general meeting of March 3, 1947, were noted. Reference was made to Article 5 of the Articles of Association, which reads as follows:

For the purposes of registration the number of members of the Federal Council is to be taken as not exceeding 12, but the Federal Council may register an increase in the number of members at any time.

It was thereupon resolved that the Federal Council should register an increase in the number of members from 12 to 15.

#### Election of Office Bearers.

Only one nomination had been received for the office of President, that of Sir Henry Newland, who was declared elected. One nomination had been received for the office of Vice-President, that of Dr. T. E. Victor Hurley, who was declared elected. Only one nomination had been received for the office of Honorary Treasurer, that of Dr. W. F. Simmons, who was declared elected.

#### Standing Orders.

The Federal Council considered its Standing Orders and made one or two minor alterations.

#### Proposed Amendment of a By-Law.

Dr. A. E. Lee gave notice of motion that he would move at the next meeting of the Federal Council as follows:

That By-Law 4 of the Federal Council be amended to read: "Until otherwise determined by the by-laws, six members present in person at any meeting of the Federal Council shall be a quorum provided that such six persons be members of four different Branches. Two members representing one or more States present in person at any meeting of the Executive Committee shall be a quorum. The quorum for any other committee shall be determined by the Federal Council or by the by-laws, but if not so determined, then in any such case it may be fixed by

the committee. If no quorum shall have been appointed two members of any such committee shall form a quorum."

#### Finance.

Dr. W. F. Simmons presented the financial statement and balance sheet as at December 31, 1946. The statement, which included the Federal Council account and the Australasian Medical Congress (British Medical Association) Fund account, was received and adopted.

Dr. W. F. Simmons put before the meeting a budget of the estimated costs of the activities of the Federal Council up to December 31, 1947. The budget was approved.

#### Medical Officers' Relief Fund (Federal).

Dr. W. F. Simmons presented the interim report of the trustees of the Medical Officers' Relief Fund (Federal) for the half-year ended December 31, 1946. It was stated that the trustees had not been able to comply with all the requests for assistance. The sum of money at the disposal of the trustees had diminished somewhat, and some details in regard to one or two of the loans were given. The report was received.

#### Federal Medical War Relief Fund.

Dr. W. F. Simmons, on behalf of the trustees of the Federal Medical War Relief Fund, presented the interim report covering the period March 12 to December 31, 1946. According to the report, the sum in hand amounted to £16,168 9s. 9d. This was made up as follows: New South Wales Branch, £7,500; Queensland Branch, £1,265 4s. 6d.; Victorian Branch, £4,109 13s. 9d.; South Australian Branch, £1,635 0s. 9d.; Western Australian Branch, £425 15s. 6d.; Tasmanian Branch, £1,119 6s. 6d. Interest on Commonwealth Treasury Bonds amounted to £113 8s. 9d. Dr. Simmons explained that further moneys in the hands of one or two of the Branches, which had not yet been put in, would bring the total up to £18,916. The sum of £16,000 had been invested in Commonwealth Treasury Bonds. So far only one claim for financial assistance had been made, and this was under consideration. He said that the list of deceased medical officers from the three services contained 90 names.

Dr. Simmons said that a letter had been received from the trustees of the fund established in New South Wales by the Royal Australasian College of Physicians and the Royal Australasian College of Surgeons, enclosing a cheque for £2,563 16s. 1d., which was the unexpended portion of their fund. It was resolved that the President should write to the trustees of the fund, thanking them for their generous donation.

#### An Appeal for an "Act of Grace" Pension.

At the instance of the Victorian Branch the Federal Council discussed the proposal that the Federal Government should grant an "act of grace" pension to the widow of an officer in the Australian Army Medical Corps who had died in 1939 as the result of a coronary occlusion. It was explained that at the time a lump sum payment as compensation had been made to the widow by the army. If the officer's death had occurred a little later, his widow would probably have been granted an "act of grace" pension. It was resolved that an appeal should be made to the Prime Minister for the granting to the widow of an "act of grace" pension.

#### Publicity.

Dr. W. F. Simmons, Dr. H. R. R. Grieve, Dr. A. J. Collins and Dr. H. C. Colville were reappointed members of the Publicity Committee.

The General Secretary brought to the notice of members of the Federal Council pamphlets which had been issued in England by the Parent Body for the purpose of informing the public of the medical profession's views in regard to health services. In one of the pamphlets, headed "The Doctors and a National Health Service", the following principles were stated as essential:

1. The medical profession is, in the public interest, opposed to any form of service which leads directly or indirectly to the profession as a whole becoming full-time salaried servants of the State or local authorities.
2. The medical profession should remain free to exercise the art and science of medicine according to its traditions, standards and knowledge, the individual doctor retaining full responsibility for the care of the patient, freedom of judgement, action, speech and publication, without interference in his professional work.

3. The citizen should be free to choose or change his or her family doctor, to choose, in consultation with his family doctor, the hospital at which he should be treated, and free to decide whether he avails himself of the public service or obtains the medical service he needs independently.

4. Doctors should, like other workers, be free to choose the form, place and type of work they prefer without governmental or other direction.

5. Every registered medical practitioner should be entitled as a right to participate in the public service.

6. The hospital service should be planned over natural hospital areas centred on universities in order that those centres of education and research may influence the whole service.

7. There should be adequate representation of the medical profession on all administrative bodies associated with the new service in order that doctors may make their contribution to the efficiency of the service.

#### Organization of the Profession.

##### *The Visit of the General Secretary to England.*

At the meeting of the Federal Council in November, 1946, the report of the General Secretary on his visit to England from May to October, 1946, was received. As the document was extensive and members of the Federal Council had had no opportunity to study it, consideration had been deferred. Reference was again made to the report. Dr. Victor Hurley expressed his keen appreciation of the document, and drew attention to the General Secretary's accurate prediction of the results of the plebiscite in England. The President expressed his appreciation of the report, and it was resolved on the motion of Dr. Victor Hurley, seconded by Dr. W. F. Simmons, that the Federal Council expressed its appreciation of the informative and valuable report, which would be of the greatest value to the profession in Australia when government proposals for medical services were being considered.

##### *Powers of the Council.*

At the meeting of the Federal Council in November, 1946, a discussion took place round the powers of the Council. This discussion arose from part of a notice of motion moved by Dr. A. E. Lee at the request of the Queensland Branch. This part of the notice of motion was to the effect that negotiations should be resumed with the Council of the British Medical Association to secure autonomy of the profession in Australia by vesting in the Federal Council the control over the Australian profession now exercised by the Central Council. After discussion on that occasion it was resolved that in view of the urgency of the matters before the Association, the Branch Councils should be asked to agree to the principle that in respect of questions on which Branch Councils had made decisions and reported such decisions to the Federal Council, the Federal Council's decisions made after consideration of such reports should become the policy of the Branches, and that the Branch Councils should confer on the Federal Council the constitutional power to state its decisions to all interested as the Association's policy. With this there was the proviso that where important facts in relation to any question or questions had come to light subsequent to their consideration by the Branch Councils, such facts should be referred to the Branch Councils for further consideration before any binding decision on the question concerned was come to by the Federal Council. It was also resolved that if all the Branches were willing to accept this proposed alteration in the constitution, the General Secretary should be authorized to take what legal steps were necessary to amend the Articles of Association. The General Secretary reported that all the Branches had agreed to the principle, and he then said that he had referred the matter to the Federal Council's legal advisers. In their reply the Council's solicitors referred to a previous request for advice by the Federal Council in regard to the acquisition of new powers. In 1943 the question arose whether decisions of the Federal Council were binding on the Branches, and the opinion of Mr. F. W. Kitto, K.C., was obtained. (See THE MEDICAL JOURNAL OF AUSTRALIA, October 2, 1943, page 274.) The solicitors quoted Mr. Kitto's opinion that the acts and decisions of the Federal Council were not legally binding on the Branches; but he expressed the view that the Branches might fairly be regarded as morally bound by what the Council did and said in most circumstances within the limits of its authority. In regard to the question of what might be done to give the Federal Council authority to act in a way that would be legally binding on the Branches, Mr. Kitto's view was that in the circumstances the most that could be done was for a gentlemen's agreement to be arranged, having a moral but no legal sanction. The

solicitors thought that the question asked in the present instance was substantially the same as the second question asked on the previous occasion, and that Mr. Kitto's opinion fairly answered it. The solicitors pointed out that Mr. Kitto in his opinion stated that one method by which the Federal Council might be given legal authority to speak on behalf of the Branches so that the decisions of the Council would be binding on them was for the constitution of each Branch to be amended in such a manner as would provide that each Branch should be bound by the acts and decisions of the Council. Any such alteration would involve the curtailment by the Branches of their own powers, as it would necessarily have to provide in effect that the Branches would refrain from expressing any view which was contrary to the expressed views of the Council arrived at by the Council after consideration. Any proposal for an alteration to the constitution of the several Branches along the lines mentioned would no doubt be very carefully considered before it was agreed to, and it would involve the Branches cutting down their own powers and giving to the Federal Council paramount powers in certain respects, even though the Branches or some of them were not in agreement with the views of the Federal Council. There would also have to be amendments to the constitution of the Federal Council itself.

Dr. Victor Hurley said that the whole matter boiled down amounted to the adoption of a gentlemen's agreement, and the General Secretary said that he thought that the Federal Council could not do better than this. Dr. A. J. Collins favoured unwritten constitutions. He did not think that it was wise at the present time to pass anything fresh. He thought that the constitution would evolve by usage, and that in the long run the Federal Council's position would be the more secure. Dr. Victor Hurley agreed that it was not necessary to push the matter further. He thought that the matter should be accepted as it stood. The Branches had agreed to the Federal Council's resolution, and there the matter should rest. It was resolved that, having heard the opinion of the legal adviser, the Federal Council should take no further action at this juncture in regard to its powers.

#### *The National Health Service in Great Britain.*

The Federal Council had before it a communication from the London office of the Association in regard to the votes received in connexion with the plebiscite taken in England among members of the British Medical Association about the discussions with the Minister on the subject of the proposed national health service. The General Secretary explained that the majority of practitioners had voted against entering into discussions with the Minister on the regulations to be made under the act. Having regard to that decision, the Council decided to recommend to a special meeting of the Representative Body that the Negotiating Committee be advised that in view of the results of the plebiscite the Minister be informed that because of the divergence between the principles of the profession and the provisions of the *National Health Service Act*, the committee is unable to enter into discussions with the Minister on the regulations to be made under that act.

In a letter to the Minister for Health written before the Special Representative Meeting, the presidents of the three Royal Colleges stated that the opposition of a substantial part of the profession to any renewal of discussions with the Government was causing them concern, as such opposition might lead to an impasse, a happening they wished to prevent. The Minister in his reply stated that an impasse between the Government and the profession would be a grave misfortune and that he wanted the help and advice of the profession and would endeavour to meet any views of the profession which did not conflict with the principles of the act.

In view of this reply the Council of the Parent Body decided to recommend to the Representative Body that the Association, having considered the final results of the plebiscite and the Minister's letter to the presidents of the Royal Colleges and desiring to secure for the people the best possible health service, is willing that discussions be entered into with the Minister to that end, provided that such discussions are comprehensive in their scope and the possibility that they may lead to further legislation is not excluded, and that after the conclusion of these discussions, a second plebiscite of the profession be taken on the issue of entering the service. The Representative Body adopted the recommendation.

The General Secretary referred to a report by the "Closed Shop" Committee of the Parent Body, a copy of which had been sent to the Branches and to the members of the Federal Council. Dr. Victor Hurley said that the

Victorian Branch had this kind of thing in mind when it drew the attention of the Federal Council to an advertisement that had recently appeared in *THE MEDICAL JOURNAL OF AUSTRALIA* calling for applications for a Commonwealth Government position and offering differential rates of payment, the rate being higher if the appointee belonged to an association of employees within the meaning of the government act. The Victorian Branch thought that this was really a case of preference to unionists, and that it was related to the "closed shop" situation in England. The Victorian Branch thought that legal opinion should be obtained on the matter. Dr. A. E. Lee agreed with Dr. Hurley. The Parent Body's statement included an opinion from two lawyers. In this opinion it was stated that practitioners were neither "masters" nor "workers", and it would therefore not be possible for one of the principal objects of a trade union to be satisfied in any proposal that members of the medical profession could properly form a trade union. This object was "the regulation of the relations between workers and masters or between workmen and workmen or between masters and masters". Counsel expressed the view that there was no means of altering the constitution of the British Medical Association so as to convert the Association into a trade union. The Association was a company incorporated under the *Companies Act*, 1862 and 1867, and could not be a trade union, having regard both to the proviso in its Memorandum of Association precluding the Association from having trades union objects and to a section of the *Trade Union Act*, 1871, and a section of the *Companies Act*, 1929, which provided that the registration of any trade union under the *Companies Acts* should be void. It followed from this opinion that if it was desired to form a trade union consisting of members of the medical profession, this could be done only by forming a new body independent of the Association. Counsel thought that there might well be some difficulty in the establishment of such a body, and discussed this at some length. After discussion it was resolved that the communication should be received.

#### *Report of the Dominions Committee of the Parent Body.*

The Federal Council considered a report of the Dominions Committee of the Parent Body presented to a meeting of the Council of the Association in December, 1946. This committee, it was explained, had been formed in order to consider ways and means by which more effective steps could be taken to deal with matters of common interest affecting practitioners in Great Britain and in the Dominions. The report dealt with the need for contact and cooperation between Great Britain and the Dominions and between the Dominions themselves, which was never more urgent than at the present time. The cordial relationship at present existing made the present time particularly suitable for the strengthening of existing bonds and for the bringing of new ones into being. The British Medical Association, owing to its extensive ramifications, was a potentially powerful factor in the promotion of Empire relationships. It could not be maintained that the bonds between the British and the different Dominion associations were being drawn tighter; rather was the opposite happening. It was thought that something more dynamic than the present Dominions Committee or any existing organ with Dominions interests of the Association was required, something offering personal contacts to medical visitors from the Dominions, from which they could obtain help and advice and perhaps even entertainment. The inclination of Dominions practitioners to journey to England rather than to go elsewhere was very much alive and should be encouraged. The Dominions Committee thought that there should be some organization, either within the Association or in conjunction with some other body, whose objects should be to foster relationships with the Dominions by all means which might appear to be suitable. The Dominions Committee had recommended to the Council that a special committee should be appointed to consider and report upon the question of contact and cooperation between the profession in the Dominions and in Great Britain and between the Dominions themselves. The Federal Council decided to defer action until further information was available.

#### *The Pharmaceutical Benefits Act, 1944 and 1945.*

The General Secretary reported that a letter had been received from Senator N. E. McKenna, Minister for Health and Minister for Social Services, bearing the date February 20, 1947. The Minister addressed his letter to the President, and stated that since the recent elections and the granting of powers to the Commonwealth Government by means of the Referendum, the Government had been giving consideration to the reenactment of the *Pharmaceutical Benefits Act*, with modification of certain clauses which were the subject

of criticism by the High Court. The Minister had been discussing certain aspects of the legislation affecting friendly societies dispensaries and chemists with representatives. The Minister extended to members of the medical profession through the President an invitation to confer with him on aspects of the act with which they might be concerned. The Minister added that if the Federal Council so desired and was in a position to speak on the subject for the profession, he would suggest that he should meet the Council or its representatives. The President had replied acknowledging the Minister's courteous invitation. He had stated most emphatically that the Federal Council did represent the medical profession and was in a position to speak for it. He also accepted the Minister's invitation to a conference on those aspects of the act with which the medical profession was concerned. The President pointed out that the Federal Council would meet in Melbourne on March 3 and would probably be in session until Thursday. He added that as the Minister's parliamentary duties might detain him in Canberra on the Tuesday, Wednesday and Thursday, he would suggest that a conference should be held in Melbourne on Monday, March 3, or on Friday, March 7. The General Secretary explained that after further telegrams had passed between himself and the President and after telephone communication with the Minister, it had been found impossible to arrange a conference. The General Secretary stated that a conference would be possible on Saturday, March 8; but members of the Federal Council had arranged to disperse before Saturday morning, and it was quite impossible to arrange further accommodation in Melbourne even if they desired to extend their stay in that city. He pointed out that the objections of the medical profession to the *Pharmaceutical Benefits Act* were not political but professional. Dr. H. R. R. Grieve said that it was clear that the Minister might be prepared to consider representations made by the Federal Council in regard to the act. The question was how far the Council could go to meet his wishes. The Council had reaffirmed the antagonism of the profession to the act, and had not really altered its attitude at all. The profession believed that the act destroyed the doctors' freedom of prescribing. Dr. Grieve thought that it might be well for the Federal Council to go to the Minister and to tell him that the attitude of the profession was the same as it had always been. At the same time it might be useful to point out to him that there were a number of drugs in wide use which were indispensable to medical practice. These included penicillin, various forms of serum and so on. The Federal Council might tell the Minister that if he wished to give these to the people free of charge, the profession should be allowed to prescribe them on their own prescription forms. If the Minister refused to do this, the onus of refusing would rest on his shoulders. Such an action by the Federal Council would not be inconsistent with its principles. Dr. Victor Hurley agreed with what Dr. Grieve had said, and thought that all essential drugs should be included. Dr. F. W. Carter was in agreement with the views of both speakers. Dr. A. J. Collins said that the Federal Council should inform the Minister of the nature of the subject. The Minister had to bow to the decision of Cabinet; but he could be informed and carry the information to the Cabinet. Whatever was done, the profession should never dream of accepting the formulary. The President said that he was delighted to hear this discussion, and he thought that all prophylactic drugs and those that came into the same category as penicillin might be supplied free of charge. During the discussion that followed, all members insisted on the freedom of the doctor to prescribe what he thought was needed, being allowed to use his own prescription forms, and on refusal to accept the formulary. Dr. H. C. Colville was strongly opposed to any idea that a committee might be suggested to meet the Minister. He agreed that it was only common sense to suggest that penicillin and similar preparations should be given free. He did not for one moment think that the Government would give way. He thought that all that was required was to write to the Minister, explaining the Council's attitude. If after that the Minister desired to meet the members of the Council, he could say so. Dr. Colville also recalled a resolution of the Federal Council which stated that if the Federal Government wished to meet the Federal Council, it should state not less than six weeks beforehand the exact nature of the proposals which were to be discussed. He asked whether this decision did not apply in the present instance. Dr. W. F. Simmons agreed that the best approach would be by letter. After further discussion it was resolved that a letter to be sent to the Minister should be drawn up expressing the views of the Federal Council concerning the alternative proposals of the Council in relation to the *Pharmaceutical Benefits Act*. It was also decided that Dr.

H. R. R. Grieve and Dr. H. C. Colville should draw up the letter.

At a later stage in the meeting a draft letter for transmission to the Minister was approved, and it was resolved that in the event of the Minister calling a conference, the following representatives should confer with him: the President, Sir Henry Newland, the Vice-President, Dr. Victor Hurley, Dr. F. W. Carter, Dr. A. J. Collins and Dr. H. R. R. Grieve.

#### Medical Planning.

At its meeting in November, 1946, the Federal Council discussed the Commonwealth Government's plan for a complete medical service, in the light of a letter received from the Minister for Health in July, 1946. In this letter the then Minister stated that, subject to the Government's being returned to power, he would be willing to meet the Federal Council with regard to plans which the Federal Council had in mind for a national medical service. At the November meeting the Federal Council reaffirmed its existing policy in regard to medical services, and it was eventually decided that the question of communicating with the Minister should be left in the hands of the President, and that the General Secretary with Dr. Simmons should interview the Minister when he was in Sydney at the end of November to attend the meeting of the National Health and Medical Research Council. The general Secretary reported that the Minister was not present at that meeting and so he had been unable to meet him.

At its November meeting the Federal Council also received a letter from the Queensland Branch enclosing the extract of a letter from Dr. J. Bostock stating that the Australasian Association of Psychiatrists wished the fullest collaboration with the British Medical Association and desired to know whether the Federal Council had given consideration to the psychological aspect of a national service. The Council had thanked Dr. Bostock for his letter, and had informed him that the psychological aspect of the problem was receiving consideration along with the other aspects involved. The General Secretary now reported that he had received another letter on the subject from Professor John Bostock, expressing disappointment at the nature of the Federal Council's reply. The General Secretary reported that he had explained in reply that the Federal Council laid down principles on which in its opinion plans for a medical service should be based, and gave consideration to the psychological aspect of such plans. The correspondence was received.

The Federal Council received the ninth interim report of the Parliamentary Joint Committee on Social Security, which was laid on the table.

#### Publicity.

Reference was made to the publication of a brochure on the subject of a general medical service for public circulation. Dr. W. F. Simmons, on behalf of the Publicity Committee, said that no formal meeting had been held, but that the Publicity Committee thought that information could best be given to the public by the individual practitioner in his consulting room. There were, he added, three ways in which publication could be effected. The first was by a brochure for the seriously minded, intelligent person, the second was by the publication of a handbook stating policy and intended for the use of the practitioner for reference purposes, and the third was something short and snappy for display in waiting rooms, something that could easily be understood by the average patient. Dr. H. R. R. Grieve was concerned with the cost of a booklet for the use of doctors. At the same time he thought that members of the Association should have at hand some source of reference. Dr. A. J. Collins thought that a brochure could be handed to certain types of patients. On the motion of Dr. A. E. Lee, seconded by Dr. H. W. Horn, decision on the issuing of a booklet was deferred.

#### Hospital Services.

At the meeting of the Federal Council in November, 1946, correspondence was read between the Prime Minister and the Federal Council on the subject of hospital accommodation and hospital personnel, and it was resolved that in regard to the increased cost incurred in the running of private hospitals, the factor of the increase in cost of equipment and foodstuffs should be taken into consideration when fees charged in such hospitals were determined. The General Secretary said that he had written to the Prime Minister a letter asking him to consider the adoption of this recommendation. No reply had been received.

At its November meeting the Federal Council considered a proposal from the South Australian Branch that the Nurses Registration Boards in all States should be approached with the suggestion that midwifery nursing

certificates should be withheld from all midwifery nursing graduates till they could produce evidence of having completed three months' midwifery hospital service subsequent to the completion of their undergraduate midwifery training time and examination pass. The proposal of the South Australian Branch had met with a mixed reception, and most members of the Federal Council had been opposed to it. The South Australian proposal had therefore merely been received. The General Secretary now stated that a letter had been sent to the Australasian Trained Nurses' Association, asking for their views on the matter. He read a reply, in which opposition to the proposal was set out under several headings. The letter was received.

At its meeting in November, 1946, the Federal Council discussed at some length the medical service in public hospitals. Reference was made to part-time service and to the establishment of the community hospital system. The view was expressed that the Branches should press for the adoption of the community hospital principle in hospital administration, in order that all doctors might have the right to follow their patients into hospital. The General Secretary reported that he had received communications from the Branches on the question of fees for part-time service. The Tasmanian Branch, for example, asked for guidance on the question of fees for part-time service, and in New South Wales sums that were entirely inadequate were being offered. He thought that some decision should be arrived at regarding salaries and payments. He drew attention to the differences between the amounts offered for the same type of work in different States. He quoted from the *British Medical Journal* a decision arrived at in respect of appointments at Grimsby, where a sum of five guineas for a session of two hours was being paid. Dr. W. F. Simmons referred to part-time appointments at the Repatriation Department hospitals, and expressed the opinion that the amount should be five guineas for a two-hour session. He was strongly of the opinion that fees for appointments of this kind should be on the sessional basis. Dr. F. W. Carter referred to radiological appointments in Western Australia, where it was thought that payment should be by fee for service. Dr. A. E. Lee said that the flat rates paid in Great Britain for consultants should not be transferred to Australian conditions. In Britain specialists and consultants were not the same, but in Australia there was practically no distinction, because those who devoted themselves to practice of a purely consultant type were very few and far between. He thought that the same remuneration should not be offered to a senior as to a junior. In Queensland hospitals there were three grades, the senior medical officers, junior officers and clinical assistants. It was possible that the creation of further grades might express the real conditions. In Queensland it was thought that the higher specialists should be paid more than administrators, but, of course, the administrators would have none of this. Dr. Lee thought that this point should be discussed. He was firmly convinced that all determinations in regard to part-time payment should be made in relation to full-time payments which were adequate. Dr. N. M. Cuthbert asked whether the same rate of payment should be made to a junior as to a senior general practitioner. Dr. A. J. Collins said that the discussion was assuming ambitious proportions. The question could be discussed under two headings: first of all the payments which should be made in a general medical service, and secondly, those which should be made to officers of public hospitals. These were two distinct points of view, and he did not think they should be raised in the present discussion. It was quite unnecessary to go into the whole question of all types of salaries. He thought that the discussion should centre around payments in hospitals in which a means test was used. There were some precedents in regard to public hospitals and appeal tribunals for the payment of five guineas per session. In regard to Commonwealth Government work, he thought that five guineas per session was the minimum fee on which work should be undertaken. There should be only two categories of work in hospitals, outdoor and indoor work. He thought that physicians should be paid five guineas per session for a minimum of two hours. Surgeons possibly might be paid more than this. He thought that outdoor work should be paid at rates varying from three to five guineas per session. He thought that there was something to be said for paying juniors more than seniors. Their time was more valuable to them, and they needed more encouragement than the seniors. In regard to pathologists and radiologists, there was a shortage of both, and a minimum remuneration of £1,250 per annum should be insisted on. At the Royal Prince Alfred Hospital the sum of £1,500 per annum was paid. Dr. W. F. Simmons said that they should not lay down a maximum remuneration but a minimum. He also

pointed out that the salaries of anaesthetists would in all probability have to be considered. Dr. Victor Hurley said that at the Royal Melbourne Hospital the salary of the pathologist was £1,500 per annum; the radiologist was paid £1,250 per annum, and the same amount was paid to the chief clinical pathologist. Provision for service would have to be made in country districts, for men would not leave the larger centres. The Victorian Charities Board paid medical officers for part-time hospital service and gave them the right of private practice. Dr. Hurley thought that surgeons would probably have to see their patients outside of sessional hours, and it would therefore be better to pay them on a salaried basis. Dr. A. J. Collins said that what was really needed was a factual survey of all the States. He referred to the working of Gloucester House, which from the staff point of view was a closed institution, and of Wade House, at the Royal Alexandra Hospital for Children, which was not. After further discussion it was resolved as follows:

A. That the Federal Council is of the opinion that in cases where part-time service by visiting specialists is rendered in public hospitals the rate of payment should be computed at the rate of not less than £5 5s. per session of not more than three hours.

B. That the Federal Council is of the opinion that in the case of full-time specialist appointments to public hospitals the commencing salary should be not less than £1,250 per annum.

#### The Medical Benefits Fund of New South Wales, Limited.

At the November meeting of the Federal Council an outline was given of the Medical Benefits Fund of New South Wales, Limited. It was announced that the company had been registered and the directors appointed. At that meeting exception had been taken by two members to a paragraph dealing with special limitation of benefits. It was pointed out that the patients who sought the advice of a doctor not a member of the company was placed at a disadvantage as compared with a patient whose medical practitioner did belong to that body. An assurance was given that the point would be brought to the notice of the New South Wales Branch Council. The General Secretary read a communication from the Chairman of the Council of the Medical Benefits Fund, stating that matters had been so arranged that a contributor would be entitled to the full scale of benefits even though his medical attendant was not a member of the fund, and not to only 75% as was originally proposed.

#### Contract Practice.

##### Contract Practice Committee.

The Contract Practice Committee was reappointed as follows: New South Wales, Dr. H. R. R. Grieve; Queensland, Dr. L. P. Winterbotham; South Australia, Dr. R. J. Verco; Tasmania, Dr. J. R. Robertson; Victoria, Dr. C. H. Dickson; Western Australia, Dr. H. Leigh Cook; together with the President, Sir Henry Newland, *ex officio*.

#### The Federal Common Form of Agreement.

Further consideration was given to the Federal Common Form of Agreement. At the meeting of the Federal Council in November, 1946, the Federal Common Form of Agreement was amended and was forwarded to the Federal Council of the Friendly Societies of Australia with the statement that it represented the final consideration of the Federal Council on the matter. The General Secretary reported that the friendly societies had been informed of the Federal Council's decision, and that he had been interviewed in January, 1947, by the President, Honorary Secretary and two members of the Federal Council of the Friendly Societies of Australia. He had been informed that the meeting of State delegates of the friendly societies would consider the Common Form of Agreement at a meeting to be held on April 21, 1947. For the moment the agreement was receiving the consideration of the Federal Executive of the friendly societies, and it was with the object of ascertaining whether the Federal Council's decision in regard to the capitation rate was final that the friendly societies' representatives had interviewed the General Secretary. The President of the Friendly Societies' Council stated that he and his colleagues were quite prepared to accept the decision of the Council in regard to the general terms of the agreement as being final, but pointed out that there had been no previous discussion between the two parties in regard to the rates. The President and his colleagues on the Friendly Societies' Council asked whether the Federal Council would be willing to reconsider its decision and accept the following rates: (1) per member per annum, 34s. in the metropolitan

area and 40s. in the country area; (ii) per single female member *per annum*, 25s. 6d. in metropolitan areas and 30s. in country areas; (iii) per juvenile member *per annum*, 17s. in metropolitan areas and 20s. in country areas. It will be remembered that the rate fixed by the Federal Council was as follows: (i) per member *per annum*, 36s. in the metropolitan areas and 44s. in country areas; (ii) per single female member *per annum*, 27s. in the metropolitan area and 33s. in country areas; (iii) per juvenile member *per annum*, 18s. in the metropolitan area and 22s. in country areas. The friendly societies' president had made it quite clear that his executive had no authority to make any offer, but explained that he and his colleagues felt that they had a better chance of influencing the meeting on April 21 to accept the rates they suggested than the rates asked for by the Federal Council. The General Secretary added that the rates suggested by the Federal Council for the supply of medicines should be 18s. *per annum*. The friendly societies' president thought that there would be no possibility of securing an agreement at that figure, and added that from the experience of their own dispensaries 13s. would be a reasonable rate. The General Secretary asked whether the Federal Council wished to adhere to its previously expressed opinion. Dr. F. L. Davies thought that the Federal Council should abide by its decision that its November resolution represented its final consideration in the matter. Dr. F. W. Carter pointed out that the rate stated was less than could have been asked for with fairness. In Western Australia in November, 1946, the Branch and the friendly societies had agreed that the rate should be 36s. 10d. in the metropolitan area and 44s. 8d. on the goldfields. This was slightly higher than the rate determined by the Federal Council. A few days prior to Dr. Carter's going to the meeting, an increase had taken place in the basic wage in Western Australia, and having regard to that increase it was considered that the rate should now be 38s. 8d. for the metropolitan area and 47s. 3d. for the goldfields. Dr. Carter said that it should be possible to make the friendly societies realize that the Federal Council had been more than fair. The rates suggested were still concessional rates. Western Australia was opposed to any variation. The Western Australian members were very dissatisfied and feared that the negotiations would drag on. He thought that the Western Australian Branch of the friendly societies would come to an agreement, because they knew that there would most likely be a still further increase later on. Dr. Carter held that if the question was reopened at all, increases in the basic wage should be taken into consideration. The General Secretary pointed out that the discussions had taken place with the friendly societies' executive, and that its members had no authority to negotiate with the Federal Council. The Federal Council resolved that it should continue to press for the rates which it had adopted in November.

At a later stage in the meeting it was resolved that a legal opinion should be obtained whether the new Federal Common Form of Agreement would have to be submitted to the Prices Commissioner.

Dr. F. W. Carter drew attention to the statement of the friendly societies' executive that there was no possibility that the friendly societies would agree to the payment of 18s. *per annum* as a dispensing fee. Dr. Carter was opposed to the dispensing of medicines by a medical practitioner. He would like to see the friendly societies undertake to make their own arrangements for dispensing. He moved that the clause in the agreement referring to the dispensing of medicines should be eliminated. Dr. H. W. Horn was in favour of Dr. Carter's motion. He said that in Queensland the rate varied from 10s. to 17s. 6d. and even more. He thought it was difficult to arrive at a correct rate. So much depended upon how a man did his work. Dr. F. L. Davies asked whether the Federal Council was justified in deleting the clause in view of its statement that the draft of the agreement approved in November represented its final consideration of the matter. The General Secretary suggested that the matter might be put to the friendly societies that the clause should be deleted if they were agreeable that this should be done. Dr. H. C. Colville said that the proposed abolition was a drastic step. The Federal Council had determined on the final form of the agreement. He thought that the friendly societies would possibly object, and that the whole agreement would again be in the melting pot. Dr. H. R. R. Grieve agreed with Dr. Colville, and said that the main consideration was to achieve finality. The General Secretary replied that he could see no reason why the friendly societies should not be told that the Federal Council was willing to delete the clause if the friendly societies so desired, and in order to achieve finality. Dr. H. W. Horn asked on what basis the friendly societies would determine the rate, and the General Secretary observed that the point

was most important, as in all probability the Prices Commissioner might come into the picture. It was finally resolved:

That in the event of it not being possible to reach agreement with the Friendly Societies of Australia in regard to the rate for dispensing and provided that the Friendly Societies of Australia are agreeable, Clause 7 (a) of the Federal Common Form of Agreement be deleted.

It was pointed out that the Western Australian Branch had given three months' notice of the termination of its agreement with the local friendly societies. The General Secretary reported that the President of the Federal Council of the Friendly Societies of Australia had asked that the notice of cancellation by the Western Australian Branch should be withdrawn. The General Secretary referred to the resolution adopted at the Federal Council meeting of November, 1946, namely:

That Branch Councils be advised of the desirability that formal notice should be given to the friendly society authorities throughout Australia of the intention of the British Medical Association in Australia to terminate any agreements, actual or implied, existing between that Association and the friendly societies councils of the various States and any of the individual friendly society lodges.

The General Secretary read some correspondence that had passed between him and Dr. F. W. Carter. In his letter the General Secretary pointed out that it had not been intended that action by the Branch Councils should be taken until such time as a reply was received by the Federal Council from the friendly societies. The General Secretary thought that in the circumstances it would be wise for the Branch to withdraw its notice of termination. In his reply to the General Secretary, Dr. Carter took a different view from that put forward by the General Secretary. He explained at some length the reasons why the Western Australian Branch Council had acted as it did. He pointed out that they had already prepared the way for their action by consultations with the Friendly Societies' Council of Western Australia during the latter half of 1946. In the discussion that followed Dr. H. W. Horn expressed the opinion that Western Australia should be allowed to proceed. Dr. H. R. R. Grieve thought that the Western Australian Branch should wait until after the friendly societies had held their conference. The President expressed the view that the Western Australian Branch had been justified in its action. He said that the Federal Council had got the Western Australian Branch into its present position, and it should get the Branch out again. After discussion a motion giving the Western Australian Branch power to proceed with the Common Form of Agreement was put to the meeting and lost. Dr. F. W. Carter then moved that the Western Australian Branch should be allowed to enter into an interim agreement with the friendly societies in that State in terms of the Common Form of Agreement. This motion was carried.

#### The World Medical Association.

The General Secretary said that an invitation had been received by the Federal Council to become a member of the World Medical Association. The General Secretary reminded members of the Federal Council of the conference which had been held in London in September, 1946, at the invitation of the British Medical Association and at the instance of the *Association professionnelle internationale des médecins*. He read the objects of the World Medical Association, and laid on the table a copy of the report by Dr. J. H. Anderson, who had acted as the Federal Council's representative. He explained that the membership fee would be £45 *per annum*. Dr. H. R. R. Grieve said that the widest view of the question should be taken, and that the interests of the profession in every country in the world should be considered. Apart from this, it had to be remembered that unless the medical profession in the free countries was represented, then the profession in the countries that were not free would combine and speak for the medical profession as a whole. He felt convinced that the Federal Council should go into the organization even though it did cost something. Dr. Grieve moved that the Federal Council should become a member of the new association. This was seconded by Dr. A. Murray and carried. It was noted that Dr. Anderson's report had been published in THE MEDICAL JOURNAL OF AUSTRALIA of February 15, 1947.

#### The National Health and Medical Research Council.

The General Secretary said that he had received the final report of the twenty-second session of the National

Health and Medical Research Council, held at Sydney on November 27 and 28, 1946. Copies had been forwarded to the Branches and to the members of the Federal Council.

The Federal Council also had before it a report by Dr. W. F. Simmons, the Federal Council's representative on the National Health and Medical Research Council. Dr. A. J. Collins, in discussing Dr. Simmons's report, expressed the opinion that the grant given to the Council by the Federal Government was far too small. He referred to several matters in which Australian research should take part. After discussion it was resolved that the Federal Council should ask the Federal Government to increase the grant made for research purposes in the administration of the National Health and Medical Research Council, and also to consider seriously the establishment of a research foundation.

The General Secretary said that requests had been received from the South Australian, Tasmanian and New South Wales Branches regarding a statement on streptomycin that was mentioned by Dr. W. F. Simmons in his report. The Branches thought that the statement should be published in *THE MEDICAL JOURNAL OF AUSTRALIA*. It was resolved that the Editor should be asked to publish the statement.

#### The Australian Pharmaceutical Formulary.

At the November, 1946, meeting of the Federal Council it was announced that an editorial committee and a publications committee had been appointed in connexion with the revision of the Australian Pharmaceutical Formulary, and that a preliminary draft had been drawn up. The General Secretary stated that the draft formulary had been approved by Dr. A. J. Collins and Dr. F. W. Carter. About 100 formulae had been deleted. Forty new formulae had been added, and twenty had been changed. Some discussion took place on the purpose and value of the formulary. One view expressed was that the work should represent the accumulated experience of experts in different branches of medicine. It was noted that the formulary in the preface contained a statement that it had the approval of the Federal Council. It was resolved that further action in the matter should be left in the hands of Dr. A. J. Collins and Dr. F. W. Carter.

#### Income Tax Deductions: Depreciation on Books.

At the meeting of the Federal Council in November, 1946, a discussion took place on the present allowance of 5% on the value of books allowed as a deduction for income tax purposes, and this was thought to be quite inadequate. It was resolved that a request should be made to the Income Tax Commissioner that the amount allowed on depreciation of books should be increased from 5% to 20%. The General Secretary said that this request had been made, and that the Commissioner for Taxation had replied stating that the request could not be granted.

#### Fees for Medical Examinations.

Further reference was made to the fees payable for the examination of candidates for entry into the service of the Commonwealth Bank of Australia. The General Secretary said that he had written to the Chairman of the Commonwealth Public Service Board asking if consideration could be given to: (a) the payment of a fee of one guinea where the department was responsible, and (b) amending paragraph 6 of "Instructions to Commonwealth medical officers" by deletion of the words "ten shillings and sixpence" and substitution in lieu thereof of the words "twenty-one shillings". A reply was awaited.

In regard to the examination of candidates for ordinary life insurance, the General Secretary reported that he had had a further telephone communication with the Honorary Secretary of the Life Offices Association of Australasia, who had informed him that the matter of the form of examination was still under consideration.

#### The Conditions of Service of Full-Time Medical Officers of the Permanent Armed Forces.

Further reference was made to the conditions of service of medical officers serving with the Royal Australian Navy. A report was received from Sir Alan Newton, who had been appointed at the request of the Federal Council to a committee set up by the Naval Board to investigate conditions of service medical officers. It was pointed out that an advertisement had recently been offered to *THE MEDICAL JOURNAL OF AUSTRALIA* for medical officers for the Navy, but that the advertisement had not been published pending receipt of a reply from the Navy Board in regard to the remuneration of medical officers. In his report Sir Alan Newton observed that the reluctance of young

graduates in medicine to join the Navy in peace time contrasted strongly with the eagerness displayed by those men who served it in the recent war. There was no doubt that this reluctance was real and widespread throughout the medical profession. Several explanations had been given to him by various responsible members of the medical profession as illustrating at least an attitude of mind which had to be overcome if the Navy was to obtain sufficient doctors. In the first place the majority of men with any claim to be regarded as even moderately efficient who embarked upon the study of medicine, did so in order to engage in its practice. Reasonable opportunities for the practice of medicine did not exist in the Navy. In the second place, the present rate of pay and provisions for retirement were totally inadequate. Thirdly, promotion was slow and depended almost entirely on seniority. No recognition was given to outstanding ability. The fourth reason which was stated, but of which he had no proof, was the general belief that the Navy did not hesitate to vary the conditions under which a medical officer had joined the service, and that on occasions these conditions were interpreted in an unjust way. Sir Alan Newton set out a list of reforms which he thought were necessary. These dealt with pay, promotion, retirement provisions, hospital work, post-graduate work, study for senior qualifications, work on hospital staffs, and deferred pay. The General Secretary said that he had written to the Minister, asking whether any decision had been made. He had received a reply that proposals for a review of the pay were under consideration. In the circumstances it was resolved that consideration should be deferred until the next meeting.

#### An Advertisement from the Commonwealth Department of Health.

The General Secretary said that the Victorian Branch had drawn attention to an advertisement which appeared in *THE MEDICAL JOURNAL OF AUSTRALIA* of January 18, 1947, from the Commonwealth Department of Health. In this advertisement it was stated that preference would be accorded to persons with the necessary qualifications in accordance with the provisions of the *Reestablishment and Employment Act* (Number 11) of 1945. The salary range was stated in the advertisement as being applicable only to returned soldiers and to members of an organization within the meaning of the *Commonwealth Conciliation and Arbitration Act*; to other persons a lower salary range was offered. The Victorian Branch considered that this indicated that a policy of preference to unionists was now operative in the Commonwealth Department of Health. As far as the Branch knew, this policy had not previously been applied to medical appointments in Australia. The General Secretary said that he had written to the Acting Director-General of Health, and had asked him whether the higher rate of salary would apply to a member of the British Medical Association who was not a returned soldier. He had received a reply stating that no inquiry was ever made of an applicant for a position whether he was a member of the British Medical Association or not. The matter had been referred to the Branches. The Tasmanian Branch thought that steps should be taken to deal with the matter, the Queensland Branch did not approve of the differential rates, and the South Australian Branch was at a loss to understand the attitude of the department and was opposed to the action. The New South Wales Branch thought that the Federal Council should register a protest. It was resolved that counsel's opinion should be obtained on the matter, and that counsel should be asked to take into consideration the report of the "Closed Shop" Committee of the Parent Body. It was also resolved as follows:

That the Federal Council communicate with the Federal Minister for Health concerning the advertisement published in *THE MEDICAL JOURNAL OF AUSTRALIA* which is the subject of a letter from the Victorian Branch to the effect that the salary discrimination advertised may have the effect of excluding an applicant of higher medical qualifications; that this in effect is tantamount to making a non-medical qualification decisive in the granting of the appointment; that, in particular, prejudice of the public health may be caused by an appointment in respect of which professional attainments are not the decisive qualification. That failing a satisfactory reply from the Minister a statement be made in the Press disclosing the facts and their possible consequence to the public.

At the instance of the Victorian Branch the Federal Council discussed the appointment of a permanent legal adviser. It was pointed out that discussion with more than one adviser might be necessary in connexion with different

forms of litigation. It was resolved that the Federal Council should permanently retain an expert legal adviser to whom reference could be made in any matters affecting the relationship of the medical profession with public bodies or governments. It was also resolved that the selection of counsel should be left in the hands of the President after he had received the advice of the Association's solicitors.

#### Income Tax Assessment Act, 1936-1946.

Reference was made to the depreciation of medical equipment and motor-cars in relation to the *Income Tax Assessment Act, 1936-1946*. It was pointed out that many practitioners had no clear ideas of what deductions were allowable. It was resolved that the Federal Council should arrange for the publication in *THE MEDICAL JOURNAL OF AUSTRALIA* of an article by experts on income tax matters and on the preparation of income tax returns.

#### Malayan Medical Service.

The General Secretary said that a request had been received by the medical superintendent of the Perth Children's Hospital, asking for assistance to obtain medical officers for the Malayan Medical Service. This request had been sent on by the Western Australian Branch. The information had been transmitted to the Branches and to the Editor of *THE MEDICAL JOURNAL OF AUSTRALIA*. It had been suggested that the Malayan Medical Service should advertise for medical officers.

#### Shortage of Nurses.

The General Secretary read a letter which he had received from the Western Australian Branch dealing with the shortage of nurses. The Western Australian Branch wished to have the Federal Council's views on two resolutions which had been adopted by its Council. The first was to the effect that the Repatriation Department should be asked that when possible, where single certificate nurses could be called up, the department should refrain from calling up nurses with double certificates. The second resolution was that the Trans-Australia Airlines and the Australian National Airways should be approached and asked to refrain from stipulating that the primary qualification necessary for prospective hostesses should be that they were qualified nurses. The Western Australian Branch had written to the Repatriation Department and to the air lines mentioned in regard to both these matters. The General Secretary said that he had referred the Western Australian letter to the Branches. The South Australian Branch thought that it was inadvisable to interfere, and that any approach that was to be made should be made to the Nurses Registration Board. The Victorian Branch thought that no useful purpose would be served by doing anything in the matter. There was no stipulation that hostesses should be chosen only from amongst nurses, though it was true that a nursing or first-aid certificate was required. The New South Wales Branch and the Tasmanian Branch approved of the Western Australian resolution, and the Queensland Branch thought that no action should be taken. It was resolved that no action should be taken.

#### The Federal Council's Representative on UNRRA.

The General Secretary reported that Dr. William Wood had resigned from his position as representative of the Federal Council on the Australian Council of UNRRA. It was resolved that Dr. G. G. L. Stening should be appointed as Federal Council representative in his place.

#### Ophthalmological Society of Australia (British Medical Association).

The General Secretary reported that he had received a communication from the Ophthalmological Society of Australia (British Medical Association), asking whether it was possible for ophthalmologists in New Zealand to be appointed as associate members of that body. He had written to the Secretary of the Parent Body, who had replied that associate members could not be elected, but had suggested that New Zealanders should be made visiting members of one of the Australian Branches. The Secretary's action was approved.

#### Australasian Association of Psychiatrists.

A communication was received from the Australasian Association of Psychiatrists setting out a list of their office-bearers.

#### War Emergency Organization.

##### Conditions of Service Committee.

It was resolved that Dr. W. F. Simmons and Dr. H. R. R. Grieve should be reappointed members of the Conditions of Service Committee.

#### Repatriation Commission.

Further reference was made to the medical benefits for widows, orphans and widowed mothers of the 1939-1945 war. At the previous meeting of the Federal Council in November, 1946, it had been stated that the Repatriation Commission had been unable to commence the scheme for medical benefits in Queensland, owing to the lack of response from medical practitioners. The General Secretary reported that a more satisfactory response had been obtained as a result of the efforts made by the Queensland Branch. Everything was now in order for the initiation of the service. It was reported that in Western Australia the persons receiving the service were still receiving it through friendly society lodges. It was resolved that an inquiry should be made from the Repatriation Commission, asking the reason for the delay in the implementation in Western Australia of the agreement entered into by the Federal Council and the Commission for the provision of the service in question.

At the previous meeting of the Federal Council in November, 1946, consideration was given to the fees payable to local medical officers of the Repatriation Department for out-patient treatment. The General Secretary said that he had received no reply from the Minister for Repatriation to a letter dealing with the subject, and it was resolved that a further letter should be written to the Minister, asking for a decision in the matter.

Reference was made to the Special Advisory Committee on Medical Services, which had been set up to draft a scheme for the organization of the medical services of the Repatriation Commission. It was pointed out that no information about the findings of the committee or about any action that it had taken was forthcoming. It was resolved that the Minister for Repatriation should be asked to inform the Federal Council of what action was to be taken in regard to the report of the committee appointed to inquire into the medical services of the Repatriation Commission.

#### Rehabilitation of Ex-Service Personnel with a Disability Not Accepted as Being Related to War Service.

At the previous meeting of the Federal Council in November, 1946, a good deal of discussion took place on the rehabilitation of ex-service personnel with a disability not accepted as related to war service. The Federal Council on that occasion extended an invitation to Dr. Douglas Galbraith, the Coordinator of Rehabilitation, to put his views before the Council. The plan described by Dr. Galbraith is summarized in the issue of *THE MEDICAL JOURNAL OF AUSTRALIA* of December 21, 1946, at page 885. The Council appointed a committee to report on the matter. A report of this committee was now presented. The report was divided into several sections. It was stated at the outset that the restoration of working capacity was of more importance to the individual and to the nation than any cash payment or pension to the individual. The restoration had to be conditioned, not only by the nature and degree of disablement and the previous occupation of the individual, but also by the demand for workers in particular trades and industries. The next section of the report dealt with the aims of rehabilitation service. The first aim was stated to be the provision of means for ensuring full-time medical, psychiatric and surgical investigation and treatment appropriate for conditions causing loss of efficiency in the individual. Some new type of occupation should be taught when permanent incapacity for a previous occupation existed. It was also necessary to awaken a sense of responsibility and cooperation in the individual by throwing the onus of complete rehabilitation on his active efforts. The activities of the individual should be directed into some form of self-expression which would encourage self-discipline and inculcate a pride in achievement. He should be taught to meet the challenge of his environment with confidence in his own ability. Social activities and the development of the community spirit should be encouraged and healthy recreation provided. Under the section dealing with essential considerations, mention was made of aptitude tests, specialized early treatment, the provision of physical rehabilitation departments, vocational training and employment agencies. In regard to rehabilitation centres, it was stated that centres should be established in the cities and larger country towns for the purpose of (a) rendering special treatment for those in need of it and (b) training medical practitioners and nurses in the principles of rehabilitation. Decentralization was regarded as essential for the success of a rehabilitation service. For the successful working of a rehabilitation service, it was essential that these centres should be located in (a) the teaching hospitals in the capital cities, (b) base hospitals in country towns, and (c) such other hospitals as might be considered advisable. It was held that these rehabilitation centres should be self-contained, and it was also stated that special convalescent

homes (or the present convalescent homes) should be utilized as centres with specially trained staffs as units subsidiary to the centres for special treatment. Certain general principles were laid down in regard to organization. These were described under five headings: (i) unity of control in each unit and a central coordinating council; (ii) segregation of the patients from other patients in the hospital; (iii) continuity of treatment from the first day of disability through convalescence to rehabilitation; (iv) adequate rehabilitation measures instituted as early as possible and continued until maximum efficiency had been obtained; (v) the establishment of an effective liaison between all immediately responsible for the clinical care of the disabled. In discussing the report Dr. H. R. R. Grieve explained that the committee regarded the proper avenues for rehabilitation as those which were normally applicable to any member of the community—the patient's own doctor and special units. To create new units would be redundant. Apart from that, it would be foolish to take the patient from his own doctor. It should also be remembered that the establishment of fresh departments would take valuable teaching material from the teaching hospitals. It was important to remember that rehabilitation began as soon after the injury as possible. This was the first principle of rehabilitation. The second was that the patient should be returned to work as soon as could be managed. Dr. F. L. Davies confessed to some disappointment in the report. He thought that it did not get them much further in the direction in which help was needed. The centre might be there; but what had to be determined was when the patient was to be referred to it. This was what Dr. Galbraith had wished to know. Dr. Galbraith had known what he wanted and had asked for help in this direction; but the help was not forthcoming. Dr. A. E. Lee thought that the report took too narrow a view. Rehabilitation was part of the normal doctor's work, but further education in the subject was needed amongst doctors. The restriction of rehabilitation centres to teaching hospitals would help; but that was a long-term view. What the Government needed was help in curing these people. Dr. F. W. Carter pointed out that the report did not cover people injured by accident. He said that if these patients were admitted to hospital, they would become part of the hospital paid service, and it would be impossible for their own doctor to see them. Dr. A. J. Collins thought that the report should be adopted, because it represented the views of the Federal Council on rehabilitation. If the report was adopted, ways and means could be discussed afterwards. The President pointed out that the report laid down principles. It was necessary that there should be continuity of treatment. After the war of 1914-1918 there were hiatuses, and the same might happen now in regard to civil rehabilitation. He thought it was wise to adopt the report on account of its general principles. The motion for the adoption of the report was carried.

Dr. H. R. R. Grieve said that the Federal Council should express itself constructively. He pointed out that Dr. Galbraith had envisaged the new enterprise. He wanted a completely new set-up. There was the conflict. The Federal Council believed that the work should be done through normal channels. All that was necessary was that the patients should be referred through normal channels. Cases of brief duration might be dealt with on the spot, as when a patient had such an injury as a cut finger. In the more difficult cases the patients should be sent to those who were competent to deal with each type of injury, and treatment should be carried out at a place where the work could be carried on continuously. It was senseless to establish a new organization which would take staff from hospitals which were already short-handed. Further, work would be duplicated and the best use could not possibly be made of the clinical material. The practical thing to do was to build rehabilitation centres at teaching hospitals. To do this would not be very expensive, as little more than equipment would be required. Dr. Grieve could not see why the Government was unable to say that it would finance the centres and allow the teaching hospitals to organize them. Dr. F. L. Davies thought that what Dr. Grieve had said was well for certain cases. Dr. Grieve was thinking of industrial accidents, to which Dr. Grieve replied that the problem was very largely industrial. Dr. F. W. Carter said that the problem had to do with the basic rehabilitation policy. He agreed with a great deal that Dr. Grieve had said. He pointed out that the Government had already taken over some military hospitals for rehabilitation purposes, and it would not alter its policy. Dr. C. Craig agreed with Dr. Carter. He laid emphasis on two points. The first was that the soldier who required treatment should stay with those under whose care he was. The second was that civilian treatment was an entirely different matter. It was not right to send patients out of the hands of ortho-

pædic surgeons, who were specially trained to do what was required. Dr. A. J. Murray said that there was urgent need for someone to look after the ex-service man who was not accepted by the Repatriation Department. It was necessary for a man of this kind to be kept going while his appeal was being heard. He referred to cases in which men had suffered hardship because this was not done. He thought that the Government and Dr. Galbraith had done good service by bringing this matter forward. At the same time he thought that the medical profession was drifting into deep water, and that the sympathies of the profession for the service men were being used to the profession's detriment. The men to whom he had referred had had a certain amount of treatment, but what they needed was money to carry them on while it was being carried out. He thought that Dr. Galbraith was a man with ideals which should commend themselves to the Federal Council. His views should be considered and not dismissed lightly. It was necessary to define what call the service man really had on the general public. Dr. W. F. Simmons pointed out that a new organization established for the rehabilitation of ex-service men who were not to be cared for by the Repatriation Department would be carried on into civilian practice, and the result would be a departmental lay control of the medical profession. Dr. A. J. Collins said that enough had been said in the discussion to show that they were all interested in rehabilitation. The only question that required to be settled was how this should be carried out. Dr. Grieve held that an attempt should be made to fit the organization into the existing fabric. Possibly some changes in the existing fabric would be necessary. A man who was being treated by his family doctor might be sent to the Repatriation Department for special diagnostic aids. The Repatriation Department would then decide whether further aid should be given. Men often had weeks and months of treatment. Domiciliary treatment should be carried out by the practitioner on a fee-for-service basis. Dr. Collins referred shortly to surgical and medical conditions. He thought that patients with non-tuberculous medical conditions should be in institutions, and he pointed out that tuberculous patients required treatment and after-care when the disease had been arrested. He thought that existing public institutions could not possibly cope with the surgical work that had to be done. He thought that the Federal Council should tell the Government that it would cooperate at the general practitioner level, and that the Council should agree to the setting up of diagnostic centres. At these centres it could be determined where the patient should be treated. When the patient was discharged from a treatment centre, he should be sent to an after-care centre. Here the profession should agree to collaborate. At the present time it was impossible to say what institutions would be needed. Special arrangements would have to be made in regard to psychiatric patients—possibly separate institutions would be required for them. Incidentally Dr. Collins said that it was necessary to define disablement, especially in some medical conditions. He thought that if treatment could be offered in an existing institution, this should be done, but that if some special institution was required, there should be no hesitation about its establishment. The same was true in regard to after-care. Dr. Collins moved a motion stating that domiciliary treatment should be on a fee-for-service basis. This was seconded by Dr. Victor Hurley. Dr. C. Craig agreed with what had been said, but thought that fees should not be discussed at the moment. Dr. F. L. Davies said that practitioners had a right to expect the same fees as were being paid for this type of work by the Repatriation Department. Dr. Victor Hurley said that the need for attention to ex-service men would continue beyond the period of twelve months. The fees paid should bear some relation to what the medical profession would expect to receive in a national service. The cases under discussion were of a kind for which the Government had for the first time accepted responsibility. It was commendable to get men back to work—everyone was agreed to that. There was no civilian set-up for the patients concerned. The Repatriation Department had a service for those who came within its sphere of activity, but the service for civilians was unorganized. Often the only treatment which an ex-service man could obtain was in an out-patient department, and he might continue as an out-patient for months and months. Treatment should certainly be carried out within the framework of existing practice. Dr. Hurley thought that the matter went beyond the teaching hospitals. He referred in this connexion to base hospitals in the country. For this work some payment would have to be arranged, and in addition arrangements would have to be made in regard to conditions under which medical practitioners would work. Facilities of hospitals would have to be extended. The hospital could not carry a man up to the stage of his reemployment. Retraining units

would be needed, units of the kind which had been established in the Royal Australian Air Force. Two points were most important. The first was that many men had family doctors and should be directed to them. The second was that any medical service that was established should be under medical control. Dr. H. R. R. Grieve said that it was necessary to distinguish between rehabilitation service and a general medical service. From some of the previous correspondence on the matter, it would be concluded that Dr. Galbraith had contemplated a general medical service. He did not believe that Dr. Galbraith's terms of service for the Government would terminate on May 29, 1947, as the Federal Council had been led to believe. The inference to be drawn from Dr. Galbraith's correspondence with the Federal Council was that there would be an extension of the service. The numbers under treatment would diminish, but in spite of this the department would remain. It would persist and would extend its activities to the families of ex-service men and to others. Dr. F. L. Davies said that if the principle was good in relation to the ex-service man and was accepted, he did not see any harm in how far it extended. Dr. H. C. Colville supported Dr. Grieve's view in the light of the future. There was no doubt that the work would continue. Up to the present time the responsibility of the Government had been for persons whose disability was due to war service. Now it was being extended to disabilities not due to war service. There was no doubt that the stage would be reached when it was said that it would be a pity to scrap the machinery and that another class of patients would have to be discovered in order to keep it going. Dr. Colville thought that whatever terms were agreed to by the Federal Council in regard to the present suggestion would be those applied to a general medical service. Already existing arrangements were being stretched. A returned soldier, for instance, had a hernia operated on by his own doctor. He had gone to the department with which Dr. Galbraith was associated, and the department had assumed responsibility—it had paid for the operation. The arrangement was possibly good, but the element of rehabilitation did not enter into the matter. If this stretching of original ideas was allowed to go on, the stretching would become more pronounced in the future. Dr. Colville had no objection to Dr. Collins's motion, but the Federal Council had to realize that the activities concerned would extend. The President agreed with what Dr. Grieve had said, but he did not share his fears. He agreed with the motion. Dr. W. F. Simmons said that he would like the Federal Council to agree within certain limitations, say for a period of two years from the date on which the first proposals had been made. He thought it quite necessary to have a limitation. Dr. Victor Hurley thought that the original proposal of twelve months should be extended. After further discussion it was resolved:

That the Federal Council is prepared to collaborate with the Government in the domiciliary treatment of ex-service personnel with a disability not attributable to war service on the basis of a fee for service, and that this collaboration should end for purposes of review at the end of June, 1948.

That in offering cooperation in this matter the Federal Council desires to make it clearly understood that the offer is conditional on the following basic conditions being observed:

1. That the service is strictly confined to ex-service personnel with a disability not attributable to war service.

2. That the service is confined to cases in which genuine rehabilitation is the problem, rather than general medical or surgical treatment.

3. That any arrangement is subject to review in June, 1948.

After further discussion it was resolved that Dr. Douglas Galbraith should be invited to confer with a committee of the Federal Council for the purposes of defining disabilities which would entitle an ex-service man to the benefit of the scheme. It was also resolved that Dr. Victor Hurley, Dr. F. L. Davies and Dr. H. C. Colville should be members of this committee. It was determined that after conferring with Dr. Galbraith the committee should submit its recommendations in the form of a resolution to be circulated amongst the members of the Council. It was also resolved as follows:

That the medical arrangements to be made to provide the treatment of these patients should, so far as is possible, make use of existing medical and hospital facilities, both in regard to domiciliary and hospital treatment, and that it be pointed out that in order to do this it will be necessary in many

cases to provide additional accommodation and equipment for the purpose.

That the basis of payment for the medical services required be those operating in regard to patients who are a responsibility of the Repatriation Department.

### Principles of Medical Ethics.

Reference was again made to the principles of medical ethics, consideration of which had been deferred on several previous occasions. The General Secretary presented a report from a committee appointed by the Federal Council in November, 1946. It was resolved that the report should be referred to the Branch Councils for consideration, and that after consideration by the Branches and again by the Federal Council it should become the common code of ethics for the profession throughout Australia.

### The Prescribing of Potent, Dangerous or Restricted Drugs.

The General Secretary read a letter from the Pharmaceutical Association of Australia and New Zealand, requesting that Branch Councils should be asked to inform their members of the danger to patients of appending the letters "M.D.U.", "M.D.S.", "For Nurses' Use", to prescriptions calling for potent, dangerous, restricted or specified drugs or preparations of them, and to require their members to write specific directions regarding the quantity and frequency of dosage. It was resolved that a copy of the letter should be sent to the Branches, with the request that it should be circulated among their members.

### Australian Dental Congress.

A request was received from the Australian Dental Association, extending an invitation to the President to extend his patronage to the eleventh Australian Dental Congress, to be held at Perth from May 24 to 29, 1948. It was determined to comply with the Association's request.

### Supplies of Rice.

At its previous meeting in November, 1946, the Federal Council, at the request of the Queensland Branch, asked the Federal Government to prohibit the sale of rice in Australia except as a strict ration to those people for whom it constituted a staple food. It was pointed out that medical men were constantly being badgered for the supply of rice to invalids. The view was held that there were in Australia many satisfactory substitutes for rice, and that to millions of people overseas it was a necessity. A letter was received from the Victorian Branch, advising that members were still being asked by patients for medical certificates for rice, and asking that a further approach should be made to the Commonwealth authorities. It was resolved that this should be done.

### Australasian Medical Congress (British Medical Association).

The General Secretary announced that the Western Australian Branch wished to issue a formal invitation that the sixth session of the Australasian Medical Congress (British Medical Association) should be held in Perth in August, 1948. The Federal Council resolved to accept the invitation. It also accepted the Western Australian Branch's nomination and appointed Dr. D. M. McWhae as president.

### The Royal Melbourne Hospital.

An invitation was received from the Royal Melbourne Hospital to hold a medical congress in Melbourne in March, 1948, to coincide with the centenary celebrations of the hospital. It was resolved that the Federal Council should thank the Royal Melbourne Hospital for the invitation, but should inform the president that it could not accept the invitation, because it had undertaken to hold the sixth session of the Australasian Medical Congress (British Medical Association) at Perth in August, 1948.

### Votes of Thanks.

Votes of thanks were passed to the Victorian Branch Council, to Dr. F. L. Davies, Dr. Victor Hurley and Dr. H. C. Colville, and to Dr. and Mrs. A. E. Coates for their hospitality, and to the Victorian Branch for the use of its offices. The thanks of the Council were also extended to the President for presiding.

### Date and Place of the Next Meeting.

It was resolved that the date and place of the next meeting should be left in the hands of the President.

## Medical Societies.

### MELBOURNE PÆDIATRIC SOCIETY.

A MEETING of the Melbourne Pædiatric Society was held on October 9, 1946, at the Alfred Hospital, Melbourne, Dr. A. P. DERHAM, the President, in the chair. Parts of this report appeared in the issues of April 5 and April 12, 1947.

#### Hyperparathyroidism.

DR. J. H. CLOKE, on behalf of Dr. F. KINGSLEY NORRIS, presented a cinematographic record of a male patient, aged seventeen years, who had been admitted to the Alfred Hospital on July 2, 1946, complaining that for the last four months he had had pain in both knees and hips, particularly the left. He had great difficulty in walking owing to a severe degree of knock-knee, which was increasing. He became fatigued and developed backache after walking short distances. He had attended the Children's Hospital in February, 1943, but after X-ray examination of his hip joints, was advised to transfer to the Alfred Hospital, to which he was first admitted on July 6, 1943, with the diagnosis of bilateral *coxa vara* considered on radiological findings to be due to bilateral traumatic slipped upper femoral epiphysis. On August 26, 1943, subtrochanteric osteotomy was performed on the left femur, and a similar procedure was carried out on the right side some four months later. In December, 1944, as bony deformities were increasing, he was admitted to the Austin Hospital for prolonged rest. At this time he was considered to be suffering from renal rickets, a diagnosis which was substantiated by the radiologist, although at this time his serum calcium level was 12.7 milligrammes per 100 millilitres of serum and his serum phosphorus level was 2.7 milligrammes per 100 millilitres of serum. He was discharged from the Austin Hospital after six months and apparently had attempted to work until his present admission to hospital.

On his admission to the Alfred Hospital on July 2, 1946, he was seen to be a cheerful lad with an apparently large cranium. He was grossly undersized, being only five feet tall and weighing seven and a half stone. No clinical abnormalities were detected in the heart, lungs, abdomen or central nervous system. His blood pressure was 110 millimetres of mercury, systolic, and 70 millimetres, diastolic. He had pronounced scoliosis, due mainly to tilting of the pelvis (short leg). His right leg was of fairly good shape, being affected with only a slight degree of *genu varum* and some enlargement of the knee joint. In the left leg extreme *genu varum* was apparent, to such a degree that during extreme abduction (limited by bilateral *coxa vara*) the left knee overlapped the right. There was some bowing of the left tibia and fibula. Some deformity of the left wrist was present, with limitation of rotation of the forearm. (The patient had sustained two fractures of the left radius and ulna as a child.) No abnormality was detected and no lump was palpable in the thyroid region. Renal function tests revealed that the blood urea level was 59 milligrammes per 100 millilitres, the renal function being approximately 70% of average normal. Excretion pyelography was carried out; no calculus was detected, but the left kidney had a slightly dilated pelvis with normal excretion and the right

kidney was enlarged; excretion was delayed, and hydro-nephrosis with dilated ureter was present, suggesting obstruction in the bladder area. X-ray examination of the skull, forearms, femora and tibia revealed considerable changes in the distal metaphyses of both forearms—changes fairly characteristic of renal rickets. The size of the skull was at that time considered to be within normal limits. Examination of the urine revealed many granular casts with an occasional red cell. Microscopic examination of the urine at the Austin Hospital eighteen months previously had revealed similar findings. Estimations of the serum calcium and phosphorus levels, the alkaline and acid phosphatase levels and the serum citric acid level were carried out at the Baker Medical Research Institute. Dr. Cloke presented in tabular form a comparison of the patient's blood chemistry findings with those in similar cases (Table I).

Dr. Cloke went on to say that, on July 22, 1946, on the blood chemistry findings, Dr. C. H. Hembrow undertook an exploration of the parathyroids. Posterior to the left lobe of the thyroid was found a mass about the size and shape of a broad bean, rather firm in consistency and of a reddish-brown colour. On section this mass was found to be a parathyroid adenoma. The other parathyroid glands were seen at the operation, but were not enlarged. Two days after the operation the patient complained of generalized tingling, and was found to present Chvostek's sign but no carpopedal spasm. Three teaspoonfuls of calcium lactate were given by mouth with relief of the tingling within a few hours; but Chvostek's sign persisted till the following day. He was given a diet extremely rich in calcium, so regulated that the ratio of calcium to phosphorus was two to one. "Olivita D" (10,000 units) was given daily by mouth. Four weeks after operation the blood chemistry was as in Table I, and although the alkaline phosphatase level remained high, other values had returned to normal. Of the citric acid level little could be said, as the investigations of Fantl and Piper, of the Baker Medical Research Institute, had as yet not been published. Experiments being conducted at the time of the meeting appeared to show a relationship between serum citric acid values and parathyroid activity. X-ray films four weeks after operation revealed no significant changes from those taken before operation, with the exception of the skull, which was considered by the radiologist to show characteristic changes of fibrocystic disease. Six weeks after his first operation the patient was subjected to supracondylar osteotomy of the left femur in an attempt to reduce some of the crippling deformity of his knock-knee. At the time of the meeting he was in a plaster cast, but it was too early to forecast the ultimate prognosis.

DR. P. FANTL pointed out that on the basis of chemical blood analysis the case was considered to be one of primary hyperparathyroidism. Serum calcium values ranging from 12 to 15 milligrammes per centum in conjunction with a low value for inorganic phosphorus would be hardly encountered in another clinical condition, and excluded the diagnosis of renal rickets, in which condition the reverse results were found. Dr. Fantl stressed the importance of citric acid in calcium metabolism and bone formation; it was indicated by the fact that normal bone contained approximately 0.5% citric acid. In the present case both the calcium and citric acid levels were raised significantly in the blood serum before operation, and both fell to normal in a second test carried out four weeks after operation. It was suggested that the

TABLE I.

Patient.	Age. (Years.)	Diagnosis.	Serum Calcium. (Milligrammes per 100 Millilitres.)	Inorganic Phosphorus. (Milligrammes per 100 Millilitres.)	Phosphatase. (Milligrammes per 100 Millilitres.)		Citric Acid.	Investigator.
					Alkaline.	Acid.		
T.E.H.	17	Parathyroid adenoma— Before operation .. After operation ..	12.6 to 14.9 9.9	3.1 4.5	> 32 32	1.6 —	4.7 3.4	Fantl and Piper.
F.C.	22	<i>Osteitis fibrosa cystica</i> ..	10.8 to 11.6	2.4 to 2.8	10.0 to 18.0	Normal.	4.7	Fantl and Piper.
S.	32	<i>Osteogenesis imperfecta</i>	10.3	2.7	4	Normal.	2.2	Fantl and Piper.
?	?	<i>Osteitis fibrosa cystica</i> — Before operation .. After operation ..	12.0 to 14.0 9.0	1.0 to 2.0 2.0 to 3.0	Very high. —	— —	— —	Hunter ( <i>Proceedings of the Royal Society of Medicine</i> , 1931).
Normal average values	—	—	9.0 to 11.0	Adults: 2.0 to 4.0 Children: 4.0 to 6.0	2.0 to 5.0	0.6 to 1.4	2.0 to 3.5	Fantl and Piper.

simultaneous rise of the two components was indicative of osteoclastic activity.

DR. DOUGLAS STEPHENS, JUNIOR, said that he had under his care a man, aged thirty-five years, who had consulted him because he suffered from recurrent ureteric colicky pains. He had at times passed small calculi, one of which was analysed and found to be phosphatic. Some years previously a large calculus had been surgically removed from the right kidney pelvis. At the time Dr. Stephens first examined the patient there was another calculus about half an inch in diameter in the pelvis of the left kidney. The blood calcium level was high and the plasma phosphorus level was low, and he showed no other evidence of parathyroid disease. Dr. Stephens said that over a period of some days he had been able completely to dissolve this calculus by irrigation with Suby's G. fluid through a ureteric catheter. The patient had been free of calculi since that time, but he was still under observation. Suby had reported other cases in which calculi due to parathyroid dysfunction had been dissolved by this fluid. Dr. Stephens said that he mentioned the treatment of this complication of parathyroid disease because he thought that, as the calculi were usually soluble in this fluid, they were amenable to treatment in this way.

DR. A. V. JACKSON said that he had examined the section pathologically, and there was no doubt that the growth was a parathyroid tumour. The cellular pathology was in accord with this view. It had no resemblance to Grawitz's tumour of the kidney as had been suggested.

DR. GUY SPRINGTHORPE said that he had come across some interesting findings when studying the literature on renal rickets and parathyroid tumours. In *The Journal of Urology* of March, 1944, G. Hayward had pointed out that renal rickets might have its onset at any age in childhood. The essential features were abnormal kidney function with altered phosphorus and calcium metabolism and dwarfism with rickets. The renal dysfunction was of the azotemic type and most commonly due to chronic nephritis or congenital obstructive urological abnormality. It was thought that as a result the kidney was unable to excrete phosphorus, and this caused a high serum phosphorus level. The excess phosphorus combined with calcium in the gastro-intestinal tract to form calcium phosphate. This, being insoluble, was eliminated, and the result was poor calcium absorption with a lowered serum calcium level. The high serum phosphorus level was believed to result in parathyroid over-activity and hyperplasia in an attempt to eliminate the excess phosphorus. By this over-activity endogenous calcium was mobilized and eliminated, and this tended further to increase the negative calcium balance. The bony changes of rachitic type varied in degree and were probably secondary to the parathyroid over-action. Over 50% of patients suffered from knock-knee. When bony changes were pronounced, the X-ray appearance was of the "spotty honeycomb" variety unlike that of active juvenile rickets. The condition was usually fatal. Dr. Springthorpe said that a second paper of interest on renal rickets, by Davis and Rossen, had appeared in *The Journal of Pediatrics* of January, 1941. These authors pointed out that patients suffering from renal rickets often showed a glucose tolerance resembling mild diabetes. The chief clinical interest in the paper was the improvement that occurred in a patient given a diet rich in potassium. With regard to parathyroid tumour, Dr. Springthorpe said that in *Surgery* of August, 1944, Cole, Albright *et alii* had analysed 78 proven cases at the Massachusetts General Hospital for the period from 1932 to 1944; 71 of these tumours were benign adenomata. These authors stated that in the majority of cases of hyperparathyroidism no bony changes were evident. The commonest complication was calcium deposition in the renal tract. The adenoma was usually simple and occasionally retrosternal. It might be small or it might weigh up to 50 grammes or more. Keating and Cook, in *The Journal of the American Medical Association* of December 8, 1945, reported 24 proven cases from the Mayo Clinic in the previous two and a half years. Their findings supported those of Cope and his associates. The average age in the seven cases was forty-four years, the youngest patient being aged twenty-four years. The symptoms were general weakness and lack of muscle tone; anorexia due to altered calcium metabolism might be present. These were frequently minimal and were not pathognomonic. Often symptoms due to renal or bony lesions would depend on whether one or both of these systems were involved and on the degree of involvement. Renal symptoms might result from calcium, secondary infection or impaired renal function. Polyuria was often present. With regard to the diagnostic significance of the renal findings, Dr. Springthorpe said that it should be borne in mind that impaired renal function could cause parathyroid hyperplasia and even secondary bony changes similar to *osteitis fibrosa cystica*. In such

a case, removal of parathyroid tissue would aggravate the condition.

Dr. Springthorpe went on to say that the bony changes shown in the X-ray film were usually those of generalized *osteitis fibrosa cystica*, but occasionally a diffuse osteoporosis resulted. Other than these, the chief diagnostic criteria of parathyroid adenoma were changes in blood chemistry. These were a lowering of the serum phosphorus level and elevation of the serum calcium and alkaline phosphatase levels. These changes were not invariable. *Pari passu* with the increased serum calcium content, the urinary calcium excretion was generally raised and there was a negative calcium balance. The most important evidence was the finding of a tumour of the parathyroid at operation, and subsequent improvement. It was of interest that during the period covering the Mayo Clinic series of 24 cases, six other patients were explored without a tumour being found. Post-operative tetany occasionally occurred, but was usually readily controlled.

Finally Dr. Springthorpe drew attention to Franconi's syndrome or infantile dwarfism with hypophosphatemic rickets and nephrosis. This had been first described in 1936, and an excellent article by Goldman and Ekstein had appeared in *The Journal of Pediatrics* in 1939. The renal dysfunction was of the tubular type resembling that following phloridzin damage. The serum phosphorus level was low and the serum calcium level was raised; however, a positive calcium balance was present. Glycosuria (up to 2%) was also found. The bony changes in the X-ray films resembled those seen in juvenile rickets—mainly atrophic changes at the lines of ossification. Of further interest was the fact that pronounced clinical and metabolic improvement followed the giving of a diet rich in potassium. Cases previously described had progressed to a fatal termination. The aetiology was uncertain, but parathyroid disease was unlikely.

## Post-Graduate Work.

POST-GRADUATE COMMITTEE IN MEDICINE,  
ADELAIDE.

### Courses for 1947.

THE Post-Graduate Committee in Medicine, Adelaide, has arranged the following courses to be held at the Royal Adelaide Hospital and the Institute of Medical and Veterinary Science during 1947:

1. *Week-End Courses* (suitable for general practitioners).—June 7 and 8: Gynaecology and obstetrics, including Rh factor incompatibility. August 30 and 31: Fractures. November 15 and 16: Diabetes.

2. *Refresher Week Course* (suitable for general practitioners).—This course will be held from Monday, August 25, to Friday, August 29, inclusive, and will deal with medicine, surgery, diseases of children, gynaecology and obstetrics.

On two nights of this week, and included in the refresher week course, two E. C. Stirling Lectures will be delivered by Dr. F. M. Burnet, F.R.S., Director of the Walter and Eliza Hall Institute of Research in Pathology and Medicine, Royal Melbourne Hospital. Dr. Burnet will deal with the scientific background to (a) tuberculosis and (b) allergic diseases.

At the end of the course, that is, on Saturday, August 30, and Sunday, August 31, there will be the week-end course in surgery. The subject to be dealt with during the latter course will be "Fractures of the Lower Extremity".

*Fees*.—Week-end courses, £3 3s. each course. Refresher week course, £3 3s. (including the E. C. Stirling Lectures). Refresher week course and week-end course in surgery, £5 5s. Two E. C. Stirling Lectures, £1 1s.

The fees for returned service medical officers and those who have been in practice for less than three years are £1 1s. less than the above figures, except for the E. C. Stirling Lectures.

### Courses for Higher Degrees.

1. *Course Suitable for Part I, M.S.*—This course will be held at the University of Adelaide during August, September and October of 1947, provided there are sufficient applications. Anyone interested is asked to notify the Medical Secretary by June 1, 1947. If there are not sufficient applicants the next course will be given during February, March and April of 1948.

2. *Course Suitable for M.R.A.C.P.*—The next course suitable for candidates for the M.R.A.C.P. examination will be held

during January, February and March, 1948. Anyone interested is asked to notify the Medical Secretary by November 1, 1947.

3. *Course Suitable for Higher Degree in Gynecology and Obstetrics.*—It is probable that such a course will be held in September, October and November, 1947. If so, there will be lectures two afternoons per week dealing with pathology, bacteriology, gynecology and obstetrics. Whether this course will be held or not will depend on the number of applicants. Anyone interested is asked to notify the Medical Secretary as soon as possible.

Details of subject matter and lecturers will be circulated to members of the South Australian Branch of the British Medical Association, or may be obtained from the Medical Secretary, Post-Graduate Committee in Medicine, Institute of Medical and Veterinary Science, Frome Road, Adelaide.

#### THE MELBOURNE PERMANENT POST-GRADUATE COMMITTEE.

THE Melbourne Permanent Post-Graduate Committee announces the following programme for May, 1947.

##### Courses for Higher Degrees and Diplomas.

University classes suitable for candidates for Part I M.D., M.S., D.D.R., D.O. and D.G.O. and Part II D.D.R. and M.S. examinations will be continued on Monday and Wednesday, and D.D.R. Physics on Thursday, afternoons. Clinical demonstrations for candidates for M.D. II and M.R.A.C.P. examinations will be held on Thursday afternoons, and a course in neurology specially suitable for candidates for M.D. II and M.R.A.C.P. examinations at 5 p.m. on Tuesdays, at the Royal Melbourne Hospital. This last will be conducted by Dr. E. Graeme Robertson.

##### The Application of Bacteriological Technique in Therapy and Preventive Medicine.

On May 1 and 8, Dr. A. A. Ferris will lecture in the course arranged by Professor Rubbo at the Medical Society Hall, Albert Street, at 4.30 p.m.

##### Country Courses.

*Geelong.*—On Wednesday, May 21, at 8.15 p.m., Dr. Vernon Collins will give a demonstration at the Geelong Hospital on "The Grizzly Child". Dr. D. A. Kidd, 216, High Street, Belmont, Geelong (phone 2857), will make enrolments.

*Mortlake.*—Dr. Leslie Hurley will conduct a demonstration on "Medical Emergencies" at Mortlake on Saturday, May 3. Dr. G. Watson, "Malahide", Camperdown, will make enrolments. The fee is 10s. 6d.

Ex-service medical officers should make sure that they have applied for assistance under the part-time category of the Commonwealth Reconstruction Training Scheme in order to have their fees covered for these country courses.

## Correspondence.

#### THE THIAMIN AND RIBOFLAVIN CONTENT OF CERTAIN VEGETABLE AND YEAST PREPARATIONS.

SIR: The article by Catherine Francis in THE MEDICAL JOURNAL OF AUSTRALIA of February 22, 1947, on "The Thiamin and Riboflavin Content of Certain Commercial Vegetable and Yeast Preparations" is of great interest, but calls for certain comment.

Does she wish to prevent the use of commercial concentrations as the source of thiamin and riboflavin? As regards the latter it is evident that she is correct—the amount of riboflavin present is negligible. But is she on such firm ground in dealing with thiamin?

Burnett Clarke in his paper on deficiency diseases<sup>(1)</sup> among the Changi prisoners is emphatic that none of the pure thiamin preparations were as valuable as "Marmite" and "Vegemite" in treating beriberi and other B deficiency groups—while the grass and vegetable soup which he and his colleagues found so efficacious was probably an excellent source of riboflavin. His article describing what he saw under actual prison camp conditions is of very great importance. That of Mitchell and Black<sup>(2)</sup> is of much less value in that they were dealing with men under much

better general condition, and they were giving unlimited "Marmite" (and a generous hospital diet) as well as the pure vitamins to all who could take it. Dr. Clarke's dose was one to two drachms by weight of "Marmite" each day to each man on the meagre camp dietary. I wish Miss Francis would give us the equivalent in thiamin and let us compare that with the National Research Council's recommended standards.

Leitner,<sup>(3)</sup> discussing Mitchell and Black's paper, condemns the use of the pure vitamins in the camp deficiency cases. In fact his letter is a call to make haste slowly with the pure vitamins in that they are not the safe and simple substances we have been led to believe. (Curiously enough those same numbers of THE LANCET contain a very strong warning against the dangers of excessive calciferol—the first is an editorial,<sup>(4)</sup> the second by a group of workers.<sup>(5)</sup>) Moreover parenteral thiamin has caused death.<sup>(6)</sup>

And what is the moral? It is, I believe, that the less we use artificial vitamins the better—that every effort should be made to supply natural sources and that our very clever manufacturing chemists be asked to turn their attention to something of greater practical benefit. As I heard Sir Robert Hutchison say in Melbourne many years after his original lecture: "You should buy vitamins at a grocer's, not at a chemist's."

I need hardly say I have no personal interest in "Marmite" or "Vegemite".

Yours, etc.,

S. F. McDONALD.

"Craigston",  
217, Wickham Terrace,  
Brisbane, B17.  
February 24, 1947.

#### References.

- <sup>(1)</sup> B. L. W. Clarke: "Deficiency Diseases", THE MEDICAL JOURNAL OF AUSTRALIA, August 3, 1946, page 162.
- <sup>(2)</sup> J. B. Mitchell and J. A. Black: "Malnutrition in Released Prisoners of War and Internees at Singapore", THE LANCET, February 14, 1946, page 855.
- <sup>(3)</sup> Z. A. Leitner: "Malnutrition in Released Prisoners of War at Singapore", THE LANCET, December 28, 1946, page 960.
- <sup>(4)</sup> "Dangers of Calciferol", Editorial, THE LANCET, February 14, 1946, page 872.
- <sup>(5)</sup> J. T. Ingram, J. Dawson, S. T. Anning and D. E. Dolby: "Dangers of Calciferol", THE LANCET, December 28, 1946, page 960.
- <sup>(6)</sup> J. M. Remgold and F. R. Webb: "Death following Intravenous Injection of Thiamin", THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION Volume CXXX, February 23, 1946, page 491.

#### A REQUEST.

SIR: I am desirous of getting in touch with a physician in your country who is a gladiolus enthusiast, and am writing you to see if you can refer this communication to the secretary of a medical society who might know of such a doctor or to anyone else who could give such information. I thought it would be to our mutual advantage in the interchange of ideas in this fascinating hobby and also afford each of us a chance to get some of the newer creations and prize winners from each country.

Anything you can do to facilitate this introduction will be I assure greatly appreciated.

Yours, etc.,

59, Elmwood Avenue,  
Providence,  
Rhode Island,  
United States of America.  
March 31, 1947.

H. E. BLANCHARD.

#### MUST SYPHILIS STILL SERVE?

SIR: Dr. Ellery, in his entertaining article in the journal of March 29, 1947, is at pains to have us believe that Henry VIII may not have had syphilis after all. He states that the distressing leg ulcer from which the king suffered could have been either varicose or osteomyelitic. It might well have been.

He also pleads that there is no evidence of cerebral syphilis in the corpulent Henry. Obviously it would be unnecessary to remind Dr. Ellery that not every syphilitic develops cerebral syphilis. On the other hand Henry apparently had cardio-vascular atheroma to which the spirochaete might well have been a contributory factor.

But Dr. Ellery's suggestion that the miscarriages and stillbirths of Catherine of Aragon and Anne Boleyn may have been due to his choosing Rh-negative women for his

first two wives is less plausible. Catherine of Aragon apparently had at least two stillborn children and two children who died either soon after birth or during early infancy before she was delivered of the sickly Mary. Surely such an obstetric history suggests syphilis rather than Rh incompatibility, in which the first one or two children are often healthy, but later ones are affected.

Anne Boleyn, it is true, bore Elizabeth, after which she too had several miscarriages. But this is not surprising in so promiscuous a nymphomaniac. However, the chances of Rh incompatibility being what they are (about one in two hundred births), it is surely straining the laws of probability to believe Henry picked two such incompatibles in succession.

Syphilis was rampant in Henry's day, and, knowing what we do of Henry's bed-time habits, he must have been singularly fortunate to have escaped the ubiquitous spirochæte. In fact, if Henry VIII did not have syphilis he jolly well deserved to.

Yours, etc.,

H. S. PATTERSON.

57, East Street,  
Ipswich,  
Queensland.  
April 5, 1947.

#### A PRECAUTIONARY MEASURE ADVISABLE IN CERTAIN ENDURANCE TESTS.

Sir: The article by Mr. W. J. Lawrence in the issue of March 22 dealing with "A Precautionary Measure Advisable in Certain Endurance Tests" will be read with great interest by medical men who are required to carry out this forty-millimetre test as a routine in connexion with medical examinations on flying personnel for the Air Force or civil aviation.

While examiners have been aware of the possibilities of "coasting", apart from the nose clip always used in this test, no other modifications seem to have been previously introduced to avoid fraud on the part of the examinee.

Mr. Lawrence is to be congratulated for devising this means of ensuring more accurate and foolproof records of this routine test in the medical examination of flying personnel.

The average time for a fit young man undergoing the test is between fifty and seventy seconds.

Yours, etc.,

E. A. DALEY,  
Air Commodore, D.G.M.S.  
(Air).

Medical Directorate,  
Albert Park Barracks,  
Melbourne, S.C.3.  
Undated.

### The Royal Australasian College of Physicians.

#### ANNUAL MEETING.

The annual meeting of the Royal Australasian College of Physicians will be held at Adelaide on Thursday and Friday, May 1 and 2, 1947. The programme of the meeting is as follows:

##### Thursday, May 1, 1947.

10.15 a.m.—Council meeting in the Council Chamber of the University of Adelaide. The admission of new members will take place at this meeting.

2.15 p.m.—Meeting of the general body of Fellows in the Verco Theatre, Institute of Medical and Veterinary Science, Royal Adelaide Hospital.

2.30 p.m.—Annual general meeting in the Verco Theatre.

2.45 p.m.—First scientific session in the Verco Theatre.  
2.45 p.m.: "Some Aspects of Leuchæmia in South Australia", Dr. J. B. Thiersch; "Leuchæmia in Children in South Australia", Dr. R. L. T. Grant. 4.15 p.m.: "Recent Advances in Carbohydrate Metabolism", Dr. A. B. Corkill; "The Significance of Calcium and Citric Acid Metabolism in Bone Disease", Dr. Paul Fantl.

8.15 p.m.—The first Archibald Watson Lecture in the Bonython Hall at the University of Adelaide: "Professor Watson and His Influence on Australian Surgery", by Sir Henry Simpson Newland. The wives of Fellows and members are also invited to attend this function. At its

conclusion they will be entertained by the Council of the University in the Refectory. Academic and evening dress will be worn.

##### Friday, May 2, 1947.

9.30 a.m.—Continuation of Council meeting.

10 a.m.—Clinical demonstration at the Royal Adelaide Hospital.

2.15 p.m.—Second scientific session in the Verco Theatre.  
2.15 p.m.: "Folic Acid Therapy", Dr. John Eolton and Dr. Hilda Gardner; "A Case of Temporal Arteritis", Dr. Gerald Moss; "An Extension of the Ariboflavinosis Syndrome", Dr. Eugene McLaughlin. 3.45 p.m.: "Unipolar Electrocardiography", Dr. Kempson Maddox; "An Anatomical Factor Influencing the Prognosis of Myocardial Infarction", Dr. T. E. Lowe.

5.30 p.m.—Late afternoon party. This will be held in the Institute of Medical and Veterinary Science, Royal Adelaide Hospital. Fellows and members and their wives are invited to attend this function. No separate invitation is being issued.

##### Exhibits.

Various exhibits will be on view continuously throughout the course of the meeting in the Institute of Medical and Veterinary Science.

### The Royal Australasian College of Surgeons.

#### A SPECIAL COURSE IN SURGERY.

THE Royal Australasian College of Surgeons announces that a special course in post-graduate surgery will be conducted at the Prince Henry's Hospital Post-Graduate School of Surgery, Melbourne, beginning on Wednesday, May 7, 1947, and concluding on Wednesday, June 4, 1947.

Sir Gordon Gordon-Taylor, Sir Alan Newton and Mr. Balcombe Quick will each operate on one half-day weekly and will each conduct two half-day ward rounds, weekly. Sir Hugh Devine will also give lecture demonstrations. A series of discussions on surgical subjects will be held throughout the course.

The course is open to all graduates, and those desiring to enter are asked to communicate immediately with the Secretary, Royal Australasian College of Surgeons, Spring Street, Melbourne, C.1, at the same time forwarding the amount of the fee for the course, which is £10 10s.

### Nominations and Elections.

THE undermentioned has applied for election as a member of the New South Wales Branch of the British Medical Association:

Renshaw, Maurice Edward, M.B., B.S., 1945 (Univ. Sydney), 308, High Street, Penrith.

THE undermentioned have been elected as members of the New South Wales Branch of the British Medical Association:

Bartrop, Noel Walter, M.B., B.S., 1939 (Univ. Sydney), 16, Livingstone Road, Petersham.

Burton-Bradley, Burton Gyrth, M.B., 1945, B.S., 1946 (Univ. Sydney), c/o Dr. J. H. Rickard, Wyong.

Cathers, Wilbur Jackson, M.B., B.S., 1944 (Univ. Sydney), 39, French's Road, Willoughby.

Chesterfield-Evans, Hugh Harvey, M.B., B.S., 1946 (Univ. Sydney), 36, Bulgara Road, Bellevue Hill.

Fitzherbert, John Crouch, M.B., 1943 (Univ. Sydney), 88, Lyndhurst Gardens, Rosemont Avenue, Woollahra.

Havyatt, Betty Carlisle, M.B., B.S., 1946 (Univ. Sydney), 3, Bellevue Park Road, Bellevue Hill.

Lang, William Robson, M.B., B.S., 1945 (Univ. Sydney), "Kurrajong", Penshurst Street, Willoughby.

Macarthur, Robert James, M.B., B.S., 1946 (Univ. Sydney), Caveat Street, Bombala, New South Wales.

Robilliard, Joseph Arthur, M.B., B.S., 1946 (Univ. Sydney), Royal North Shore Hospital, St. Leonards.

Rogers, Peter Augustine, M.B., B.S., 1946 (Univ. Sydney), Mater Misericordiae Hospital, Pacific Highway, North Sydney.

- Solling, Mena Gwendolyn, M.B., 1939 (Univ. Sydney), Royal Alexandra Hospital for Children, Camperdown.
- Stafford, Richard Stanley Longfield, M.B., B.S., 1940 (Univ. Sydney), 5, Belgrave Street, Kogarah.
- Stanger, Donald James, M.B., B.S., 1944 (Univ. Sydney), 11, Wolseley Road, Mosman.
- Stephens, Norma Clyde, M.B., B.S., 1946 (Univ. Sydney), Flat 7, Storrington, 57, Yarranabbe Road, Edgecliff.
- Yull, Kenneth Buchanan, M.B., B.S., 1946 (Univ. Sydney), Dubbo Base Hospital, Dubbo.

## Australian Medical Board Proceedings.

### NEW SOUTH WALES.

THE undermentioned have been registered, pursuant to the provisions of the *Medical Practitioners Act, 1938-1939*, of New South Wales, as duly qualified medical practitioners:

- Steiner, Robert, approved for registration in terms of Section 17 (B) of the *Medical Practitioners Act, 1938-1945*, 20, New South Head Road, Edgecliff.
- Strauss, Hugo, approved for registration in terms of Section 17 (B) of the *Medical Practitioners Act, 1938-1945*, Bulahdelah.
- Wechsler, Zacharias, approved for registration in terms of Section 17 (B) of the *Medical Practitioners Act, 1938-1945*, Broughton Hall Psychiatric Clinic, Leichhardt.
- Whealy, Elizabeth, approved for registration in terms of Section 17 (B) of the *Medical Practitioners Act, 1938-1945*, 164, New South Head Road, Edgecliff.
- Winkler, Anna, approved for registration in terms of Section 17 (B) of the *Medical Practitioners Act, 1938-1945*, 5, Gower Street, Summer Hill.
- Ziegler, Erich, approved for registration in terms of Section 17 (B) of the *Medical Practitioners Act, 1938-1945*, East Gresford.

## Medical Appointments.

Dr. N. G. Malouf has been appointed government medical officer at Parramatta, New South Wales.

Dr. J. Dale has been appointed a member of the Dental Board of Victoria.

Dr. I. M. Mackerras has been appointed Director of the Queensland Institute of Medical Research under the provisions of *The Queensland Institute of Medical Research Act of 1945*.

Dr. J. C. Mayo has been appointed honorary radiotherapist to the radiotherapy department of the Royal Adelaide Hospital, Adelaide.

Dr. C. Gurner has been appointed senior honorary assistant radiotherapist to the radiotherapy department of the Royal Adelaide Hospital, Adelaide.

Dr. B. S. Hanson has been appointed honorary assistant radiotherapist to the radiotherapy department of the Royal Adelaide Hospital, Adelaide.

## Books Received.

- "The Nature of Diseases Up To Date: An Outline of a Unitary Theory" by J. E. R. McDonagh, F.R.C.S., edited by M. Clement; 1946. London: William Heinemann (Medical Books) Limited. 8½" x 5½", pp. 184. Price: 15s.
- "A Textbook of Bacteriology" by R. W. Fairbrother, M.D., D.Sc. (Manchester), F.R.C.P. (London); Fifth Edition; 1946. London: William Heinemann (Medical Books) Limited. 8½" x 5½", pp. 488. Price: 17s. 6d.
- "Deep Analysis: The Clinical Study of an Individual Case", by Charles Berg, M.D. (London), D.P.M.; 1946. London: George Allen and Unwin, Limited. 8½" x 5½", pp. 262. Price: 12s. 6d.
- "Researches on Pre-Natal Life", by Sir Joseph Barcroft, Volume I; 1946. Oxford: Blackwell Scientific Publications. 10½" x 7½", pp. 306, with illustrations. Price: 37s. 6d.
- "The Chemistry of Anaesthesia", by John Adriani, M.D.; 1946. Oxford: Blackwell Scientific Publications. 8½" x 5½", pp. 540, with illustrations. Price: 35s.
- "Uterotubal Insufflation: A Clinical Diagnostic Method of Determining the Tubal Factor in Sterility, including Therapeutic Aspects and Comparative Notes on Hysterosalpingography", by I. C. Rubin, M.D., F.A.C.S.; 1947. St. Louis: The C. V. Mosby

Company. 6½" x 9½", pp. 454, with many illustrations, some of them coloured.

"Textbook of Midwifery", by Wilfred Shaw, M.A., M.D. (Canterbury), F.R.C.S. (England), F.R.C.O.G.; Second Edition; 1947. London: J. and A. Churchill, Limited. 8½" x 5½", pp. 664, with many illustrations. Price: 21s.

"Whither Medicine: From Dogma to Science?", by Antony Fidler, M.D.; 1946. London, Edinburgh, Paris, Melbourne, Toronto and New York: Thomas Nelson and Sons, Limited. 8" x 5½", pp. 128. Price: 6s.

## Diary for the Month.

APRIL 22.—New South Wales Branch, B.M.A.: Ethics Committee.

APRIL 23.—Victorian Branch, B.M.A.: Council Meeting.

APRIL 24.—South Australian Branch, B.M.A.: Branch Meeting.

APRIL 24.—New South Wales Branch, B.M.A.: Branch Meeting.

APRIL 25.—Queensland Branch, B.M.A.: Council Meeting.

MAY 1.—South Australian Branch, B.M.A.: Council Meeting.

MAY 2.—Queensland Branch, B.M.A.: Branch Meeting.

MAY 6.—New South Wales Branch, B.M.A.: Organization and Science Committee.

## Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

**New South Wales Branch** (Honorary Secretary, 135, Macquarie Street, Sydney): Australian Natives' Association; Ashfield and District United Friendly Societies' Dispensary; Balmain United Friendly Societies' Dispensary; Leichhardt and Petersham United Friendly Societies' Dispensary; Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney; North Sydney Friendly Societies' Dispensary Limited; People's Prudential Assurance Company Limited; Phoenix Mutual Provident Society.

**Victorian Branch** (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federated Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

**Queensland Branch** (Honorary Secretary, B.M.A. House, 225, Wickham Terrace, Brisbane, B.17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute; Brisbane City Council (Medical Officer of Health). Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

**South Australian Branch** (Honorary Secretary, 178, North Terrace, Adelaide): All Lodge appointments in South Australia; all Contract Practice appointments in South Australia.

**Western Australian Branch** (Honorary Secretary, 205, Saint George's Terrace, Perth): Wiluna Hospital; all Contract Practice appointments in Western Australia. All government appointments with the exception of those of the Department of Public Health.

## Editorial Notices.

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